THE STREAKING STAR EFFECT: WHY PEOPLE WANT RUNS OF DOMINANCE BY INDIVIDUALS TO CONTINUE MORE THAN IDENTICAL RUNS BY GROUPS

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THE STREAKING STAR EFFECT: WHY PEOPLE WANT RUNS OF DOMINANCE BY INDIVIDUALS TO CONTINUE MORE THAN IDENTICAL RUNS BY GROUPS

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Much research has been devoted to understanding people's intuitions about whether success is likely to run in streaks. However, no work has addressed the conditions under which people desire to see a run of dominance continue. The data presented here suggest that people desire to see runs of dominance by individuals continue more than identical runs of dominance by groups, a bias we refer to as the Streaking Star Effect. This effect occurs because individual dominance inspires greater feelings of awe than group dominance and because people show greater concern for the other competitors when a group is dominating than when an individual is dominating. The reach of the Streaking Star Effect extends to multiple domains of life. Consumers are willing to pay more for sports artifacts and tickets to sporting events that are associated with individual dominance than group dominance. More broadly, people are less tolerant of economic inequality when considering a group, rather than an individual, whose resources have greatly exceeded those of others. In addition to establishing a condition under which people desire to see dominance continue, this research provides an initial understanding of how individual and group dominance may have varying impacts on economic behavior and reactions to economic inequality.

BIOGRAPHICAL SKETCH

Jesse Walker grew up in Denver, Colorado and graduated with distinction from the University of Colorado at Boulder with a degree in Quantitative Economics. He spent the next several years playing music around the world. In between jaunts on the tour bus, he learned as much as he could about behavioral science. He began doctoral work in Social Psychology at Cornell University in 2014. In 2019 he assumed a position as Assistant Professor of Marketing at The Ohio State University.

For Ria, who is proof, even to an atheist, that angels walk among us

ACKNOWLEDGEMENT

As I set out to identify those who have helped me along the way, the count was staggering. It is a testament to the community and culture of Cornell that I couldn't possibly have enough space to thank everyone who has provided me with assistance. I would like to start, of course, by thanking my parents, my sister, and my grandparents for their love and support. However, when it comes to assistance in graduate school, no one looms larger than Tom Gilovich. Tom not only guided me with patience and kindness, but his unique, dynamic mind constantly inspired me to be better. I am grateful for his support, his wisdom, and his friendship. Near the end of my first year, my wife and I contemplated moving back to the familiarity of Colorado. We stayed solely because of Tom. It was the right choice.

I am forever indebted to Leaf Van Boven for inviting a thirty-year old wayward musician like me into his lab and then generously fostering my interest in behavioral research. Leaf seemed to see things in me that I didn't see in myself, and his constant encouragement led me to places I never thought I could go. I would also like to thank Kellen Mrkva, Leaf's former student, who changed my life with an email invitation in January of 2013 to work with him in Leaf's lab. It's unclear where I would be without these guys.

I was fortunate to have been helped and influenced by many other incredible people at Cornell. I would like to thank the other members of my amazing committee (David Pizarro, Amy Krosch, James Cutting, and, of course, Alex Ophir), the graduate students in the psychology department, and the brilliant and dedicated research assistants who helped me over the years. I would especially like to note the contributions of Christopher Welker, who played a key role in the design and implementation of so many of my projects. I would also like to offer a special thanks to Shai Davidai and Amit Kumar. They continue to be caring mentors, brilliant

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While in graduate school, I had the good fortune of becoming a father. I would like to thank my son, Jude Walker. His endearing, loveable spirit and keen intellect have brought joy to my life. His magical existence is a constant reminder of the true reasons for completing this dissertation. I love you, my son, with all my heart. I couldn't be prouder of you.

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CHAPTER ONE

INTRODUCTION: A THEORETICAL BLUEPRINT FOR THE STREAKING STAR EFFECT

In May of 2017, Rafael Nadal took the court for a first-round match at the French Open against Frenchman Benoit Pare. Pare, the lower ranked player, entered the court first, and, not surprisingly, the home crowd at Roland Garros gave him a spirited ovation. But the reaction Pare received paled in comparison to the one that greeted Nadal – a Spaniard – when he entered the court. One journalist described the crowd's reaction to Nadal's entrance as "an eruption" (Brown, 2017). A winner of fifteen major tennis tournaments, Nadal entered the tournament holding the record for most French Open singles championships at nine[1]. Despite whatever allegiance the crowd may have felt to their countryman, they were clearly pulling for Nadal to continue his unprecedented run of dominance.

Nine months later, the New England Patriots qualified for the Super Bowl. Having already won five Super Bowl championships, including the previous year's, the Patriots were attempting to tie the record for most Super Bowl victories by an NFL franchise. In light of the reaction Nadal received at the French Open, one might have expected the Patriots to have enjoyed a similar groundswell of support as they attempted to extend their run of dominance. But anyone who followed the build-up to the game would almost certainly have concluded that most football fans were rooting against the Patriots. One study of geo-tagged twitter posts prior

[1] As of the writing of this paper, Nadal has won 11 French Open Championships and 17 major tournaments overall.

to the Super Bowl indicated that the majority of people in 45 states across the country were rooting for the Patriots' opponent, the Philadelphia Eagles (Torgerson, 2018).

It's against the backdrop of the conflicting reactions people often exhibit to streaks of individual and group success that I embarked on the present research. There is a rather large literature on people's perceptions of streaks of success and failure, much of it focused on how and when streaks are considered likely to continue (for a review, see Oskarson, Van Boven, McClelland, & Hastie, 2009). Likewise, there has been a considerable amount of research on how people perceive individuals and groups differently (Critcher & Dunning, 2014; Hamilton & Sherman, 1996; Small, 2015). Here I take these questions in a new direction by examining how the characteristics of an entity riding a streak or, more generally, an entity experiencing a period of extraordinary performance, influences observer's desire to see that success continue. We propose that people have a greater desire to see streaks of success by individuals (like Nadal) continue more than identical streaks of success by groups (like the Patriots) – a bias I call the Streaking Star Effect.

People have long been fascinated by streaks of success and failure (Gould, 1989; Reifman, 2011) and considerable research has been devoted to understanding people's intuitions about whether or not success is likely to run in streaks. This research has focused on two types of sequences – those thought to be generated by random processes and those thought to be generated by non-random processes, like skill. With regard to randomly-generated outcomes, people expect more alternation between success and failure, and hence fewer long runs of either type than would be expected by chance (Ayton, Hunt, & Wright, 1989; Bar-Hillel & Wagenaar, 1991; Nickerson, 2002; Tune, 1964). For example, people expect a family with three boys to be more likely to have a girl as their 4th child (Kahneman & Tversky, 1972) and gamblers expect

numbers on a roulette wheel to be more likely to pay off if they have not paid off for a disproportionate amount of time (Sundali & Corson, 2006).

When it comes to non-random processes, such as sports performance, people tend to expect sequences of continuous success to continue longer than they actually do (Bar Eli, Avugos, & Raab, 2006; Caruso, Waytz, & Epley, 2010; Keohler & Conley, 2003). For instance, people overestimate how likely a basketball player is to hit his next shot if he has hit his previous shots than if he missed his previous shots or had mixed results on his previous shots (Gilovich, Vallone, & Tversky, 1985). Other work has documented a belief in "psychological momentum" (Markman & Guenther, 2007; Hubbard, 2014; Petit, Sivanthan, Gladstone, & Marr, 2013) whereby an entity's future outcomes are thought to be affected by its recent pattern of performance. That is, people tend to believe that athletes, teams, and businesses that have experienced recent success are more likely to continue that success than they truly are.

Despite these efforts to understand how people's intuitions about the likelihood of a streak continuing, no work, to our knowledge, has focused on what drives observers' *desire* to see a streak continue. One factor that may influence whether people want a streak to continue is whether the entity riding the streak is an individual or a group. Research on perceptions of individuals and groups suggests that people tend to perceive individuals more positively than groups (Critcher & Dunning 2014). Sears (1983) argued that people are more likely to view a target positively if the target resembles an individual person, a phenomenon he dubbed the "person positivity bias." People also show a bias toward individuals in comparative judgments, often comparing themselves on a positive trait less favorably against an individual than against a larger or more abstract entity such as a group (Alicke, Klotz, Breitenbecher, Yurak, and Vredenburg, 1995). This is the case whether the comparison individual in question is a close

relative or a complete stranger (Hoorens & Buunk, 1993). Similarly, people tend to rate the individual faces of a group of unattractive individuals as more attractive than the group as a whole (Miller & Felicio, 1990). In a moral context, people predict that an individual will be more likely to exhibit moral behavior than a group (Crticher & Dunning, 2013).

This bias in favor of individuals is reflected in language as well. People are more likely to use individual terminology (he, she) when describing well-liked entities (e.g America) (MacKay & Konishi, 1994) and to use negative terminology when describing entities with group properties (Vonk & Ashmore, 2003). Taken together, research on perceptions of individuals and groups lends credence to our thesis that people may want a period of exceptional performance by an individual to continue more than an identical pattern of performance by a group.

Being in Awe of Individuals on Streaks

Although research suggests that people view individuals more positively than groups, there is no existing work that points to why people might want to see individuals on a streak win more than a group on a streak. One reason, I argue, is that people may feel a greater sense of awe at the prospect of a long run of individual success. The experience of awe is characterized by a perception of vastness—immenseness in size, scope, number, ability, or hierarchy (fame, authority)—which exceeds a person's existing cognitive structures and thus requires a new schema that expands the person's worldview (Keltner & Haidt, 2003; Shiota, Keltner, & Mossman, 2007). We argue that individual dominance is more likely than group dominance to trigger such processes.

There are several reasons for this claim. One is that individual dominance may be more likely than group dominance to expand our notions of the limits of human potential. Observers

confronted with an extreme or unprecedented phenomenon, like a long period of success, are likely to seek to explain it and their explanations are likely to differ depending on whether the target is an individual or a group. Research indicates that people's explanations for the behavior of individuals and groups often differ, with the behavior of individuals more often attributed to dispositional factors and the behavior of groups more often attributed to situational factors (Critcher & Dunning, 2014). There are many possible explanations of group success, such as an unusual collection of talent, effective leadership, good chemistry, or a large payroll (Brown, 1984), all of which can be viewed as the result of a fortuitous combination of situational factors.

In contrast, an individual competitor who achieves an extraordinary run of dominance is likely to leave little doubt in the minds of observers as to who is largely responsible for such success—the successful individual receives the lion's share of the credit. The concentrated "credit" that people assign an individual who achieves a run of dominance is likely, in turn, to prompt observers to believe that they have witnessed an accomplishment that has pushed the limits of human potential and is something unique or extraordinary that couldn't be replicated by others. At the same time, the situational attributions for group success may make observers less inclined to conclude that a group's run of success is solely the result of the special talents of the individuals involved. Thus, individual dominance, more so than group dominance, may be more likely to be seen as pushing the limits of human potential, requiring observers to update their existing schemas about the frontier of human performance. This experience of witnessing an extreme phenomenon and adjusting one's existing schemas to fit it into one's world view reflects the very definition of awe.

The idea that individual dominance is more awe inspiring than group dominance may seem counter-intuitive. Achieving the cohesion necessary for team success can be a considerable

challenge (one need look no further than a typical academic faculty meeting). As a result, continued group success may seem more difficult to sustain, which could lead to more of a feeling of awe when witnessing continued group success. Although this counter-hypothesis may seem intuitive, it should be noted that success on difficult tasks does not necessarily lead to greater feelings of awe (Keltner & Haidt, 2003). People complete difficult tasks all the time, but that rarely generates much awe in observers. Indeed, awe may be more likely to be elicited when observing someone completing a challenging task with *ease* rather than with difficulty. Rafael Nadal, for example, has never appeared to have much difficulty winning the French Open year to year. All he seemingly has to do is prepare for the tournament and stay healthy. The fact that Nadal's success does not seem especially hard for him has not diminished the awe his feats have inspired in tennis fans around the world. Quite the opposite. Impressive human achievements that come easily may be more likely to trigger feelings of awe because they highlight a pronounced discrepancy between the target and the rest of humanity.

Another reason that streaks of individual success may be more likely to inspire awe than streaks of group success is that the former tend to be seen as more rare and hence more exceptional. In many circumstances, groups are more enduring than individuals and therefore have more opportunities to get on a streak. Although their individual members may change from year to year (and change entirely generation to generation), the Yankees are still the Yankees and Facebook is still Facbook, and over the long haul each has many opportunities to achieve a sustained run of success. Individuals, in contrast, have relatively short careers and therefore a limited amount of time to establish dominance. Although Rafael Nadal has only a limited number of years to leave his mark on the sport of tennis, the New England Patriots will have the opportunity to do so as long as football is played. Rare events often loom large in judgment

(Tversky & Kahneman, 1992; Camerer, 2000), and the smaller window individuals have to sustain a run of success may make such success seem more improbable, which may add to the awe they inspire.

Although the experience of awe can be negative under certain conditions (Gordon et al., 2016), it is typically an uplifting experience that gives rise to a variety of positive outcomes. The experience of awe makes people more likely to help others (Piff, Dietze, Feinberg, Stancato, & Keltner, 2015), less likely to embrace materialistic values (Rudd, Vohs, & Aaker, 2012), more likely to challenge themselves (Rudd, Hildebrand, & Vohs, 2018), and more likely to experience a high degree of well-being (Rudd, et al., 2012). The prospect of witnessing something awe-inspiring, then, is something that people should view with eager anticipation. And because we expect the experience of awe to be greater when an individual extends a run of successful performance, we expect people to prefer periods of success by individuals to continue more than identical periods of success by groups.

Taking Others into Consideration More in a Group Context

There is another process that may drive the Streaking Star Effect. Beyond inspiring greater feelings of awe, long runs of individual success may draw attention away from the other competitors more than long runs of group success. Past research has noted that people are attuned to individuals and entities that exhibit a history of success (Cialdini et al., 1976; Dijkstra, Cilessen, Lindenberg, Veenstra, 2010; Lee, 1985). In addition, specific targets, such as an individual competitor, tend to command more attention than broad or abstract targets, such as a group or team (Hamilton & Sherman, 1996; Kogut, Ritov, Rubalteli, & Liberman, 2018; Petty &

Cacioppo, 1986; Sherman, Bieke, & Ryalls, 1999). Together, these lines of work suggest that an individual on a run of success may monopolize the attention of observers, which may have a side effect of reducing the attention they pay to the other individual competitors who are *not* winning. As a result, when thinking about a period of individual success, people may focus narrowly on the individual and pay scant attention to those who have failed to win. But when thinking about a period of group success, they may find themselves thinking about those who are losing out.

And there are consequences of where we direct our attention. Attention has been linked to empathy (Greason & Cashwell, 2009), and so focusing narrowly on the individual riding a streak may limit the degree to which observers become concerned about the other competitors who have been vanquished along the way. When a group is on a run of dominance, on the other hand, observers' attention may roam more freely to the other competitors, leading to compassion for those who have been shut out. ("It's time for long-suffering Browns fans to have something to celebrate." "It's not fair that the Patriots win so often.") To the extent that the Twitter data I cited earlier can be used as a proxy for fans' attention to other competitors, it appears that football fans were far more attentive to the fate of the Patriots' opponent, the Philadelphia Eagles, than to the fate of Rafael Nadal's opponent, Benoit Pare.

A Streaking Star Effect? Or an Identifiable *Victor* Effect?

I have outlined two mechanisms that we believe are responsible for the Streaking Star Effect – greater feelings of awe over sustained individual success than over sustained group success, and greater consideration of groups that aren't winning than individuals who aren't winning. As noted earlier, however, people tend to view individuals more favorably than groups

in general (e.g. Critcher & Dunning, 2014), and so an alternative explanation for the Streaking Star Effect is that it reflects a general preference to see individuals win more than groups—whether or not the individual or group is exhibiting a period of sustained success. Is prior dominance necessary for people to want individuals to succeed more than groups?

Research on the identifiable victim effect suggests that people may prefer to see individuals prosper more than they want to see groups prosper. People tend to allocate more resources to a single, identifiable victim than a statistical group of victims (Cameron & Payne, 2011; Kogut & Ritov, 2005a; 2005b; Small, 2015; Small & Loewnstein, 2003; Small, Loenwenstein, & Slovic, 2007; Smith, Faro, & Burson, 2012) and the contributions to business owners seeking microfinance loans tend to be greater for individual business owners than groups of business owners (Galak, Small, & Stephen, 2011). Given these results, it's possible that the bias we have proposed—the Streaking Star Effect—may be just a narrower instance of a broader phenomenon that might be called the Identifiable *Victor* Effect.

Although the literature on people favoring individuals is extensive, we do not believe that the Streaking Star Effect is an artifact of a supposed Identifiable Victor Effect. The mechanisms we have proposed to explain the Streaking Star Effect – awe and consideration of others – require a period of exceptional performance. Awe is triggered by a sense of vastness, and an inability to accommodate extreme stimuli into existing schemas. Absent an extended period of success, there is no reason to believe that people will feel the sense of unfathomable vastness that elicits awe. It is a rare single victory, whether by an individual or a group, that is likely to be similarly hard to accommodate. In addition, as I noted above, successful individual competitors may command one's attention at the expense of other individuals. Absent a notable streak, attention to the other competitors may be more equal across individual and group contests. Thus,

although there are some instances in which people have a general bias toward individuals over groups, we expect a run of dominance is necessary in order for people to desire a streak of success by an individual to continue more than an identical streak by a group.

Overview

The research presented here has two primary goals. The first is to establish that people have a preference for the continuation of streaks of success by individuals over groups. In Chapter 2, I present several studies that establish the Streaking Star Effect as a robust phenomenon that occurs in multiple domains. Three of these studies contain evidence supporting our hypothesis that the experience of awe drives peoples' preference for the continuation of individual success over groups success. I also report the results of two studies showing that consideration of the other competitors is lower in an individual context than in a group context, which also partially drives the effect. Near the end of the chapter, I rule out the Identifiable Victor Effect as an alternative explanation with two studies that suggest a streak of success is necessary in order to activate the preference for individuals to win more than groups.

A second aim of this research is to explore the broader impact of the Steaking Star Effect in everyday life. Chapter 3 investigates how the Streaking Star Effect may affect consumer behavior. In two studies, I find that products that are associated with a dominant run of success by an individual are valued more than products that are associated with a dominant run of success by a group. Similar to Chapter 2, I find that consumers are willing to pay more for products associated with individuals only when those individuals are on a dominant run of success.

In Chapter 4, I examine how the Streaking Star Effect may influence attitudes about issues in society. Economic inequality has accelerated in the last 50 years (Piketty & Saez, 2014), resulting in many negative consequences for society (e.g. Levine, Frank &Dijk, 2014). We believe that the Streaking Star Effect may modestly impact people's tolerance of economic inequality. Specifically, I propose that people may view inequality as more fair and just when they think about those at the top of the income ladder as individuals rather than as groups. Consequently, a subtle framing that highlights those at the top of the wealth distribution as a group, rather than individuals, may reduce people's tolerance of inequality. I explore this possibility, and the mechanism behind it, in three studies.

Finally, in Chapter 5, we examine some limitations, moderators, and future directions. In addition to the implications we have mentioned for consumer behavior and attitudes about inequality, this work may have broader unexplored consequences for companies and charitable organizations.

One More Point

Before I dive into the data, I would like to make a point about how I refer to the author(s) of this work throughout the text. This work was conducted in collaboration with, and under the close supervision of, one Tom Gilovich. I'm am forever indebted to Tom, which I covered in the acknowledgements and, for the sake of you the reader, I will not gush about any further. But as a result of the closeness with which we worked on this project, it was unclear to either of us whether I should refer to the authors of this work as "we" or the more traditional "I". You will have noticed that going forward I have opted for the former. But given that I'm about to make a case that audiences want success to continue more for individuals than for groups, I made that

decision with some misgivings about how it would impact the experience of the reader. I hope the early chapters are sufficiently successful that you find yourself pulling for the streak to continue, despite there being a group of authors.

CHAPTER 2

EMPIRICAL EVIDENCE FOR THE STREAKING STAR EFFECT

In this chapter, we present empirical evidence for the Streaking Star Effect and establish its underlying causes. In an initial demonstration, we used a within-subjects, forced-choice design to test whether people would prefer to see a real Olympic athlete continue a streak in an individual event versus a team event. We then examined this bias using a between-subjects design in domains unfamiliar to participants – an obscure Italian sport (Study 2) and a British trivia competition (Study 3). We then turned our attention to the mechanisms driving this effect. In Study 4, we asked participants to consider a homicide detective who was on an unprecedented streak of solving cases or a homicide department that was on the same streak. We measured both participants' desire for the streak to continue and the amount of awe they would feel if it did. In Study 5, we used the scenario from Study 1 to determine whether people take other competitors into consideration more in group competitions than individual competitions, and whether such considerations mediate the Streaking Star Effect. We then examined the relationship between the Streaking Star Effect, the experience of awe, and attention to those who lose out in Study 6. We find that both the experience of awe and attention to those who lose out mediate the streaking star effect, but we did not find that the experience of awe is responsible for the lessened attention to those who lose out in individual competitions. Finally, we employed other scenarios from Olympic competition in Studies 7a and 7b to investigate whether the Streaking Star Effect is simply a variant of the identifiable victim effect—i.e., an identifiable *victor* effect.

Study 1 – Usain Bolt

As an initial test of our hypothesis, we identified an athlete who is currently on a streak of success in both an individual and a group competition. In a pre-registered study, we asked participants whether they would rather see this individual continue his streak in the individual or the group event. We anticipated that people would prefer to see the individual streak continue.

Method

Participants. 200 participants (93 female, 2 non-binary, mean age = 28.63) were recruited from Prolific Academic in exchange for modest compensation. This sample enabled us to detect a significant result for an effect size of $d = .35$ with 80% power.

Procedure. After giving informed consent, participants read about Jamaican sprinter Usain Bolt. Bolt has won the gold medal in the 100 meters at the last three Olympics (2008, 2012, 2016). He has also been a member of the team that has won the gold medal in the 4x100 meter relay at the last three Olympics (2008[2], 2012, 2016). After reading about both streaks, participants read that although Bolt is supposedly retired, there is speculation that he will return to race again in the 2020 Olympics. Using a forced choice paradigm, we asked participants to indicate whether they would prefer to see Bolt win the gold medal in the 100 meters or the 4x100 meter relay at the next Olympics. Participants then indicated how much they liked Usain Bolt on a scale from 1 (not at all) to 9 (very much). Finally, participants reported their age and gender, but neither variable qualified any of the results of this or any of the following studies and so they will not be discussed further.

[2] In 2017, Jamaica was stripped of their 2008 Gold Medal in the 4x100 meter relay after it was revealed that one of their team members (not Usain Bolt) tested positive for performance enhancing drugs. After telling participants Jamaica had won the race in 2008, we did not tell them that the gold medal for the 2008 race was later taken away from Jamaica.

Results. Many more participants indicated that they would prefer to see Usain Bolt win the gold medal in the 100 meters at the next Olympics (152, 79.0%) than the 4x100 meter relay (48, 21.0%). The proportion of participants who preferred to see Bolt win the 100 meters was significantly greater than 50%, $z = 8.20$, $p < .0001$.

One possible explanation for these results is that people wanted to see Usain Bolt win the 100 meters because they like him and therefore want to see him experience individual success. Indeed, in 2017 Bolt was named by ESPN as the 7th most popular athlete in the world. To test the possibility that Bolt's popularity is driving this result, we performed a binomial logistic regression with liking as the independent variable and preference for Bolt to win the 100 meters or the 4x100 meter relay as the dependent variable. The model revealed that liking did not predict preference, $t < 1$, which aligned with our pre-registered hypothesis. Although people preferred to see Usain Bolt continue his streak in an individual event more than a group event, it appears that factors other than his notable popularity are responsible for this result.

Study 2 – Calcio Fiorntino (Florentine Kick Game)

Although the degree to which people reported liking Usain Bolt did not predict their preference to see him win the individual event in Study 1, our participants had likely heard of Bolt and had pre-existing opinions about him. We therefore examined the Streaking Star Effect in Study 2 in a domain in which participants had no previous knowledge of the players or even the competition itself. To do so, we relied on an obscure sport, Calcio Fiorntino (the English translation is *Florentine Kick Game*), which is an amateur Italian sport in which teams of 15 players compete against each other to move a ball from one end of a dirt field to the other. Although modestly popular in Italy (Calcio games usually draw a couple thousand spectators in

the major cities), it is not played outside of Italy. The defining aspect of Calcio Fiorntino is that there are no fouls. Players are allowed to contact each other in any manner, including kicking and punching. The sport has been described as a combination of mixed martial arts and rugby. Because Calcio is largely unknown outside of Italy, it allowed us to test the strength of the Streaking Star Effect when observers had no pre-existing knowledge or feelings about the competitors.

Method

Participants. 207 participants (123 female, 1 non-binary, mean age = 34.92) were recruited from Mechanical Turk in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = .35$ with 80% power.

Procedure. In a pre-registered study, all participants read about the history and rules of Calcio Fiorntino and then were randomly assigned to the *team* or *individual* condition. In the *team* condition, participants read that Calcio is traditionally played as a team sport and that the team from Milan is generally recognized as the best in the world. We then asked participants to imagine that Milan had won the Calcio Championship six times in a row, more than any other team, and had once again made it to this season's final. In the *individual* condition, participants read that although Calcio is traditionally a team sport, there is a variant of the sport that is played individually, or "one-on-one." Participants then read about a player, Roberto Moretti, who was said to be the best individual player in the world. We asked them to imagine that Moretti had won the Individual Calcio Championship six times in a row, more than any other player, and to imagine that he had once again made it to this season's final. Participants in both conditions were then asked to imagine that they were in Italy watching the Calcio championships this year. Next, participants indicated how much they would be pulling for Moretti/Milan to win this year's

championship, how much they would like to see Moretti/Milan extend the record for consecutive championships, how exciting they thought it would be to see Moretti/Milan to extend the record for consecutive championships, and how much they would be thinking to themselves "I want to see this streak come to end," all on a 1 to 9 scale, with higher numbers on all but the last question indicating more interest in the streak continuing—and responses to the last question reverse scored.

Results. The four dependent measures were highly correlated (Cronbach's Alpha = .88) and so we averaged them to create a composite measure. A t-test performed on the composite indicated that participants wanted to see Roberto Moretti continue his streak (M = 6.62, *S.D.* = 1.72) significantly more than they wanted to see the team from Milan continue its streak (M = 5.28, *S.D.* = 2.23), unequal variances $t(187.82) = 4.99$, $p < .0001$, $d = .69$. These results indicate that the Streaking Star Effect emerges even when people have no prior knowledge of the event or the individuals/teams involved.

Study 3 – The British Quizzing Championship

We designed Study 3 with two goals in mind. First, we wanted to test the Streaking Star Effect in a domain outside of athletics. Second, we wanted to address whether the results of Study 2 might be due to participants being asked how much they would root for an identified person in the individual condition while those in the group condition were asked how much they would root for an unidentified group of players. We therefore examined whether the effect would hold when the members of the group on a streak were individually identified. To accomplish these goals, we turned to the preeminent trivia competition in Britain, the British Quizzing Championship (BQC). Every year 5000 competitors enter the BQC and compete in

regional competitions to earn a place in the final. Champions are crowned in both individual and team competitions, a fact that we exploited to test the Streaking Star Effect.

Method

Participants. 201 participants were recruited from Mechanical Turk in exchange for modest compensation. 3 of these were excluded for not completing each aspect of the study. That left a final sample of 198 participants (94 female, mean age = 37.5). This sample allowed us to detect a significant result for an effect size of $d = .36$ with 80% power.

Methods and Materials. Participants first read about the history and rules of the British Quizzing Championship (BQC) and then were randomly assigned to the *individual* or *team* condition. In the *individual* condition, participants read about a competitor from the British Quizzing Championship, Kevin Ashman, who we said had won the last four quizzing championships (2013, 2014, 2015, 2016), more than any other player in history, and how he would be competing in this year's final. In the team condition, participants read about a team of five competitors, Ian Bayley, David Edwards, Gareth Aubrey, Pat Gibson, and team captain Kevin Ashman who together had won the last four team quizzing championships, more than any other team, and how they would be competing in this year's final. All participants were then asked to imagine that they were in Britain watching the BQC this year. Next, participants answered the same four questions from Study 2 to assess their desire to see the streak continue. They were asked how much they would be pulling for Ashman/Ashman's Team to win this year's championship, how much they would like to see Ashman/Ashman's Team extend the record for consecutive championships, how exciting they thought it would be to see Ashman/Ashman's Team extend the record for consecutive championships, and how much they would be thinking to themselves "I want to see this streak come to end," all on a 1 to 9 scale with

higher numbers on all but the last question indicating more interest in the streak continuing—and responses to the last question reverse scored.

Results. The four questions that measured participants' desire to see the steak continue were highly correlated (Cronbach's Alpha = .92) and so we averaged participants' responses to them to create a composite measure. A t-test on this composite indicated that participants wanted to see Kevin Ashman continue his streak (M = 6.82, $S.D.$ = 1.84) more than they wanted to see Kevin Ashman's team continue its streak (M = 5.96, $S.D.$ = 2.05), $t(196) = 3.11$, $p = .002$, $d = .44$. The Streaking Star Effect thus emerged once again even though the members of the group were identified in the same manner as the individual.

Study 4 – Individual Dominance is More Awe Inspiring

Having established the reliability of the Streaking Star Effect[3], we turned to the exploration of its underlying causes. In this study, we examined whether a streak of individual success inspires greater feelings of awe which, in turn, make people want to see an individual streak continue more than a group streak. We also wanted to test the Streaking Star Effect in a domain that was far removed from sports and games.

Method

[3] We want to make clear that our results are the tip of a sizable empirical iceberg, not a misleading sample taken from a file drawer of unsuccessful tests of the effect. We have found the basic streaking star effect in several different Olympic competitions, an obscure Italian sport, a British trivia competition, streaks of solved homicide cases, and streaks of corporate versus CEO success. In 12 tests of the basic Streaking Star Effect to date, we have obtained significant supporting evidence in 9 of them, a pattern of means in the predicted direction in the other 3, and no results in the opposite direction.

Participants. 205 participants (116 female, mean age = 39.0) were recruited from Mechanical Turk in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = .35$ with 80% power.

Procedure. All participants read about the (real) law enforcement entity, the National Association of Police Organizations (NAPO), that hands out awards to police officers and police departments. Participants were then randomly assigned to the *individual* or *group* condition. In the *individual* condition, participants read about an award that NAPO gives out every year to the best homicide detective in the country based on closure rate on assigned homicide cases. They then read about Detective Edwin Sorensen who was said to have won the award each of the last four years and was also being evaluated for the award this year. Detective Sorensen was described as working for either the Kansas City or Los Angeles Police Department. In the *group* condition, participants read about an award that NAPO gives out to the best homicide department in the country based on closure rate on assigned homicide cases. Participants read that either the Kansas City or Los Angeles Police Department had won the award four years in a row and was also under review for the award this year. We then asked all participants to imagine that they were watching the NAPO awards live this year.

Participants were then asked the same four questions from Studies 2 and 3 that measured their desire to see the streak continue. Participants indicated how much they would be pulling for Sorensen or the KC/LA Police Department to win the award, how much they would like to see Sorensen or the KC/LA police department win the award again, how exciting they thought it would be to see Sorensen or the KC/LA police department win the award again, and how much they would be thinking to themselves "I want to see this streak come to end," all on a 1 to 9

scale, with higher numbers on all but the last question indicating more interest in the streak continuing—and responses to the last question reverse scored.

Next, participants indicated the extent to which they would feel three awe related emotions if the streak were to continue. Using a scale from previous work (Steller, Gordon, Anderson, Piff, McNeil, & Keltner, 2018), participants indicted on a 1 (not at all) to 9 (a great deal) scale how much awe, amazement, and wonder they would feel if the streak were to continue. To distinguish any effect of awe from general positive emotion, participants also indicated how happy and amused they would feel, and how much compassion they would feel, if the streak were to continue, all on a 1 (not at all) to 9 (a great deal) scale.

Results

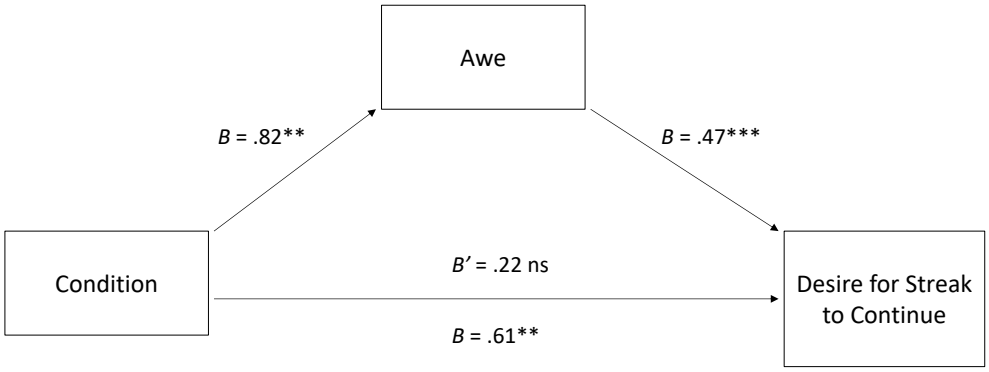
Participants' responses to the four questions that tapped participants' desire to see the streak continue were averaged to create a composite measure (Cronbach's Alpha = .82). A 2 (condition: individual, group) x 2 (city: Los Angeles, Kansas City) analysis of variance (ANOVA) on the composite measure yielded a main effect of condition, no main effect of city ($F < 1$), and no interaction ($F < 1$). Participants who read about the success of the individual detective wanted to see him extend his streak of consecutive awards ($M = 6.36$, $SD = 1.54$) more than participants who read about the success of one of the police departments ($M = 5.75$, $SD = 1.83$), $F(1, 201) = 6.67$, $p = .01$, $d = .36$.

Next, the three questions that assessed the amount of awe participants would feel if the streak were to continue were averaged to form a composite measure of awe (Cronbach's Alpha = .74). A 2 (condition: individual, group) x 2 (city: Los Angeles, Kansas City) analysis of variance (ANOVA) on this composite measure yielded a main effect of condition, no main effect of city ($F < 1$), and no interaction ($F < 1$). Participants indicated that they would feel more awe if the

detective were to continue his streak of success (M = 6.55, SD = 1.77) than if the police department were to continue its streak (M = 5.73, SD = 2.23), $F(1, 201) = 8.55$, $p = .004$, $d = .41$. The three questions that assessed the degree of positive emotion participants would feel if the streak were to continue were likewise averaged to create a composite measure of positive emotion (Cronbach's Alpha = .79) and analyzed using the same model. There was no main effect of condition, no main effect of city, and no interaction (all F's < 1).

Further analysis provided support for our hypothesis that feelings of awe are at least partly responsible for the Streaking Star Effect. Participants indicated they would feel more awe if the individual were to continue his streak than if the group were to do so, $b = .82$, $SE = .28$, $t(203) = 2.93$, $p = .004$. When both condition and the composite awe measure were simultaneously entered into a regression predicting participants' desire to see the streak continue, condition was no longer a significant predictor ($b = .22$, $SE = .20$, $t(202) = 1.10$, $p = .27$) while awe significantly predicted desire for the streak continue ($b = .47$, $SE = .05$, $t(202) = 9.73$, $p <$ .0001). A Preacher Hayes (2008) bootstrapping procedure (with 10,000 iterations) revealed that the indirect effect of condition through awe was significant, 95% CI = [.117, .380], $p = .005$, indicating that awe was a significant mediator of the effect of condition on participants' desire to see the streak continue. (See Figure 1.)

Figure 1 – Awe Mediates the Streaking Star Effect



** p <.01, *** p <.001

In a domain entirely removed from sports and games, participants again preferred to see an individual on a streak of success continue that streak more than a group on an identical streak of success. Individual success generated greater feelings of awe than group success, which mediated the effect. Unlike awe, general positive emotion did not differ by condition.

Study 5 – Attending to Those Who Are Outdone

Although awe appears to be at least partially responsible for people's desire to see superior individual performance continue more than superior group performance, we do not believe that awe is solely responsible for that effect. We therefore tested in the next study our prediction that the Streaking Star Effect also results from greater consideration of the other competitors when a group is on a streak than when an individual is on a streak. To do so, we turned once again to the Olympic games and to Usain Bolt.

Method

Participants. 202 participants (77 female, mean age = 37.13) were recruited from Mechanical Turk in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = .35$ with 80% power.

Procedure. Participants were randomly assigned to read about Usain Bolt's ongoing streak of success in the 100 meters or about Jamaica's streak of success in the 4x100 meter relay. Participants were then asked the same four questions from the previous studies that measured their desire to see the streak continue: how much they would be pulling for Bolt/Jamaica to win again at the 2020 Olympics, how much they would like to see Bolt/Jamaica win again at the 2020 Olympics, how excited they would be to see Bolt/Jamaica win again at the 2020 Olympics, and how much they would like to see the streak come to end (reversed scored), all using the same scales from the previous studies.

Participants then answered three questions that measured the degree to which they were taking other competitors into consideration when thinking about how much they wanted to see Bolt/Jamaica win. Specifically, they were asked to rate the extent to which they thought about other competitors when considering how much they wanted Bolt/Jamaica to win (from 1 "not at all" to 9 "a great deal"), how much they thought their judgment *should* be influenced by other competitors who might not win (from 1 "not at all" to 9 "a great deal"), and how clearly they imagined a specific other competitor besides Bolt/Jamaica when thinking about how much they wanted to see the streak continue (from 1 "not at all clearly" to 9 "extremely clearly"). Participants were given the opportunity to write down the specific other competitor that came to mind if they had, in fact, thought about another competitor when thinking about how much they wanted the streak to continue. Finally, participants reported their age and gender.

Results

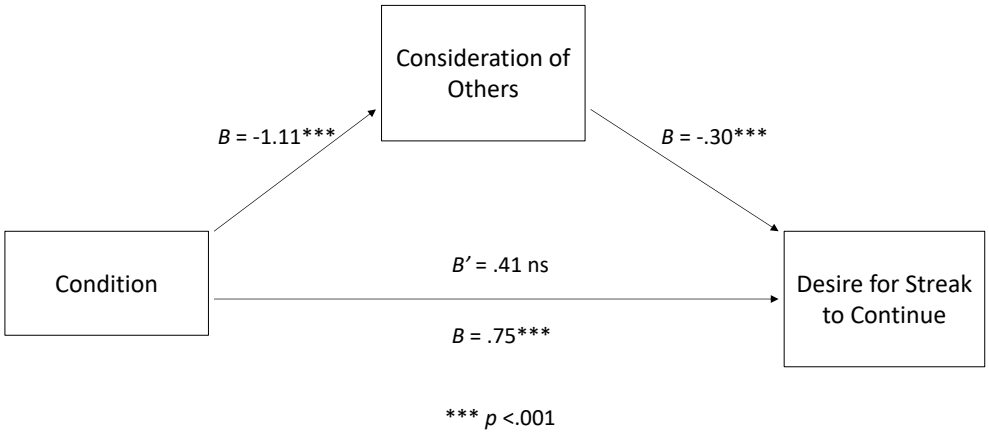
Responses to the four questions that measured participants' desire to see the streak continue were averaged to create a composite measure (Cronbach's Alpha = .86). Participants wanted to see Usain Bolt continue his streak of success in the 100 meters (M = 7.72, SD = 1.43) more than they wanted to see Jamaica continue its streak in the 4x100 meter relay (M = 6.97, SD = 1.88), unequal variances $t(184.97) = 3.19$, $p = .001$, $d = .45$. Responses to the three questions that measured the degree to which participants took other competitors into consideration when thinking about how much they wanted to see the streak continue were also highly correlated (Cronbach's Alpha = .86) and therefore averaged to form a composite. Participants reported taking other competitors into account less when considering how much they wanted Usain Bolt to continue his streak in the 100 meters (M = 3.61, SD = 2.02) than they did when considering how much they would like to see Jamaica continue its streak in the 4x100 meter relay (M = 4.73, SD = 1.89), $t(200) = 4.04$, $p < .0001$, $d = .57$.[4]

Further analysis provided support for our hypothesis that the degree to which people take other competitors into account when thinking about how much they would like to see a streak continue contributes to the Streaking Star Effect. Participants indicated that they would take other competitors into account more when thinking about Usain Bolt continuing his streak than when thinking about Jamaica continuing its streak, $b = 1.11$, $SE = .28$, $t(200) = 4.04$, $p < .0001$. When both condition (Bolt/Jamaica) and the composite measure of consideration of other competitors were simultaneously entered into a regression predicting desire to see the streak

[4] One possible alternative explanation for these results is that other countries simply come to mind easier than other sprinters. To address this, we performed a mediation analysis in which we used as the mediator the single question in which participants were asked how much their judgment *should* be influenced by the other competitors who may not win—a normative judgment not dependent on accessibility. A Preacher Hayes (2008) bootstrapping procedure (with 10,000 iterations) revealed that the indirect effect through this single measure was significant, 95% CI = [.010, .142], $p = .03$.

continue, condition fell to a marginally significant predictor (b = .42, SE = .23, t(199) = 1.81, p = .07) while consideration of other competitors significantly predicted the desire to see the streak continue (b = .30, SE = .06, t(202) = 5.34, p < .0001). A Preacher Hayes (2008) bootstrapping procedure (with 10,000 iterations) revealed that the indirect effect through consideration of other competitors was significant, 95% CI = [.145, .340], p < .001, indicating that the degree to which people took other competitors into account was a significant mediator of the effect of condition on people's desire to see the streak continue.

Figure 2 – Consideration of Others Mediates the Streaking Star Effect



Study 6 – The Experience of Awe, Attention to Also-Rans, and The Streaking Star Effect

We have obtained evidence for two mechanisms that appear to drive the Streaking Star Effect – awe and consideration of others. Are the two mechanisms related? It's easy to see why they might be. Individual success tends to be more awe inspiring than group success, and

scholars have argued that awe tends to capture attention (Piff et al., 2015). The greater attention paid to individuals on a run of success may, in turn, reduce the extent to which observers take other individual competitors into consideration. Thus, the diminished consideration of other individual competitors who are not winning may be a direct result of the awe that individual competitors on a run of success inspire.

Of course, it is also possible that these two mechanisms operate independently, with each separately contributing to the Streaking Star Effect. As we noted earlier, research has shown that individual success tends to capture attention more than group success, whether or not it inspires feelings of awe (e.g. Dijkstra, Cilessen, Lindenberg, Veenstra, 2010). Therefore, our main aim in designing this study was to examine whether these two mechanisms operate independently, or whether it is the greater feelings of awe that extraordinary individual success inspires that leads people to give less consideration to individual competitors who lose out to the winners.

Method

Participants. 201 participants (99 female, mean age = 34.86) were recruited from Prolific Academic in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = .35$ with 80% power.

Methods and Materials. Participants read a brief history of the sport of speed skating. They were then randomly assigned to read about an individual speed skater from Switzerland, Aaron Kramer, or about Switzerland's speed skating team. Each participant was told that the skater or team they read about was on a streak of success, having won the gold medal at the last three Winter Olympics. All participants were told that the skater or team they read about would be competing in the upcoming Winter Olympics and to imagine watching the speed skating events live. All participants were then asked to indicate how much they would be pulling for

Kramer/Switzerland to win the gold medal on a scale from 1 (not at all) to 9 (a great deal), how much they would like to see Kramer/Switzerland win the gold medal this year on a scale from 1 (not at all) to 9 (a great deal), and how excited they would be to see Kramer/Switzerland win the gold medal this year on a scale from 1 (not at all excited) to 9 (extremely excited). Next, participants indicated how much awe, wonderment, and amazement they would feel if Kramer/Switzerland were to win the gold medal this year, all on scale from 1 (not at all) to 9 (a great deal). They were also asked to rate the extent to which they thought about other competitors when considering how much they wanted Kramer/Switzerland to win, using the first three questions from the scale from study 5. The questions measuring participants' experience of awe and the questions measuring the degree to which participants took the other competitors into consideration were counterbalanced. Participants then reported their age and gender.

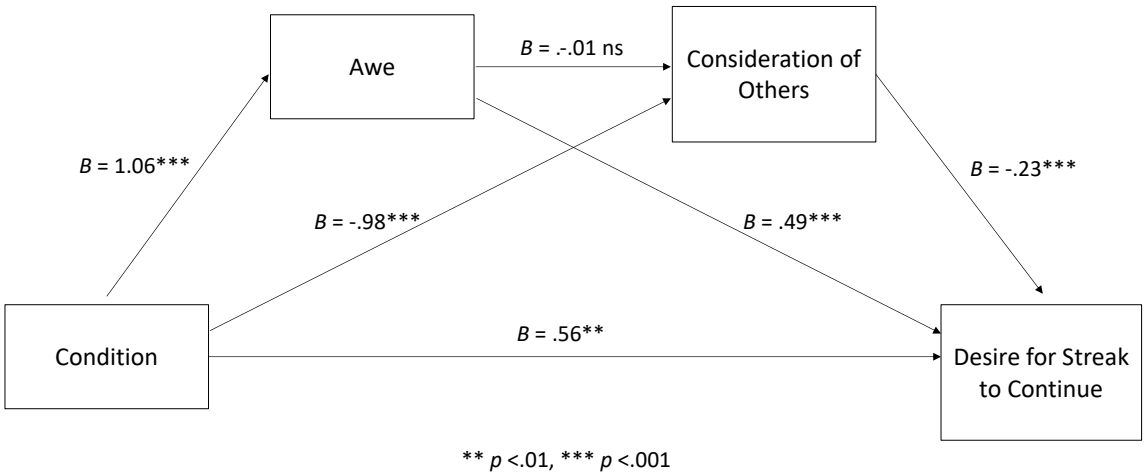
Results

Responses to the three questions that measured participants' desire to see the streak continue were averaged to create a composite measure (Cronbach's Alpha = .89). Participants wanted to see Aaron Kramer continue his streak of success (M = 6.92, SD = 1.60) more than they wanted to see Switzerland continue its streak (M = 5.59, SD = 2.07), unequal variances $t(188.02) = 5.07$, $p < .001$, $d = .72$. Responses to the three questions that assessed the amount of awe participants would feel if the streak were to continue were also highly correlated (Cronbach's Alpha = .89) and averaged to form a composite measure of awe. Participants reported greater feelings of awe at the prospect of seeing Aaron Kramer continue his streak of success (M = 6.86, SD = 1.65) than at the prospect of seeing Switzerland continue its streak (M = 5.79, SD = 2.05), $t(191) = 4.06$, $p < .001$, $d = .57$. Finally, responses to the three questions that measured the degree to which participants took other competitors into consideration when thinking about how

much they wanted to see the streak continue were also highly correlated (Cronbach's Alpha = .80) and therefore averaged to form a composite. Participants reported taking other competitors into account less when considering how much they wanted Aaron Kramer to continue his streak of success ($M = 4.56$, $SD = 1.95$) than they did when considering how much they wanted to see Switzerland continue its streak ($M = 5.56$, $SD = 1.95$), $t(199) = 3.63$, $p < .001$, $d = .51$.

To investigate the relationship between the awe people feel at the prospect of the streak continuing and the degree to which they take the other competitors into consideration, we fitted the data to a structural equation model using the Levaan R package. See Figure 3 for a summary of the results. As we observed in Study 4, awe was a significant mediator of the Streaking Star Effect. The indirect path from condition to awe to desire for the streak to continue was significant ($b = .53$, $SE = .14$, $z = 3.67$, $p < .001$). We also replicated the result from Study 5 in which consideration of others significantly mediated the effect. The indirect path from condition to consideration of others to desire for the streak to continue was significant ($b = .22$, $SE = .08$, $z = 2.61$, $p = .009$). However, the path between awe and consideration of others was not significant ($t < 1$). Thus, the indirect effect from awe to consideration of others to desire for the streak to continue was also not significant ($b = .01$, $SE = .07$, $z = .16$, $p = .88$). Although awe and consideration of others both significantly mediated the effect, the degree to which people took the other competitors into consideration was not driven by the amount of awe they felt at the prospect of seeing the streak continue. These mechanisms appear to operate independently, with both playing a sizable role.

Figure 3 – Relationship Between Awe, Consideration of Others, and Desire for the Streak To Continue



Studies 7a and 7b – Not Simply an Identifiable *Victor* Effect

We have presented evidence that people want streaks of exceptional performance by individuals to continue more than equivalent streaks by groups. But is a streak of success or long period of exceptional performance necessary for people to want to see an individual win more than a group? Our studies to this point are unable to rule out the possibility that the Streaking Star Effect is simply an artifact of a more general preference to see individuals win more than groups—a bias we might call the Identifiable Victor Effect. We conducted Study 7a to determine whether the Streaking Star Effect is separate and distinct from such an Identifiable Victor Effect. Our expectation was that the mechanisms that we have identified as being responsible for the Streaking Star Effect would only be activated by a streak of success or a prolonged period of exceptional performance. We therefore predicted that the Streaking Star

Effect would emerge as a distinct phenomenon. Study 7b was a conceptual replication designed to test the robustness of the findings from Study 7a.

Method

Participants. 202 participants were recruited on Mechanical Turk for study 7a. Five of these were excluded for failing to complete all aspects of the study, leaving a final sample of 197 (99 female, mean age = 34.86). 225 participants were recruited on Mechanical Turk for study 7b. Eight participants were excluded for failing to complete every aspect of the study, leaving a final sample of 217 (117 female, mean age = 35.08). These samples allowed us to detect a significant result for an effect size of $d = .35$ with 80% power.

Methods and Materials. The procedure for study 7a was the same as that for study 6 except we did not measure the degree to which participants took the other competitors into consideration. We also added a *no information condition* in which participants read the same information about Kramer/Switzerland but were given no information about the skaters' previous competitive outcomes. The procedure was the same for Study 7b but with two exceptions. First, we did not measure awe or attention to other competitors. Second, we examined the Streaking Star Effect in a different domain. Participants first read a brief history of the sport of badminton. They were then randomly assigned to read about an individual badminton player from Denmark, Thomas Layborn, or about a badminton team from Denmark. Some participants were told that the player/team they read about was on a streak of success in their respective events, having won the gold medal in badminton at the last two Olympics. Other participants were given no information about the previous history of the players. All participants were then asked the same three questions from Study 7a (and Study 6) that assessed their desire to see the streak continue.

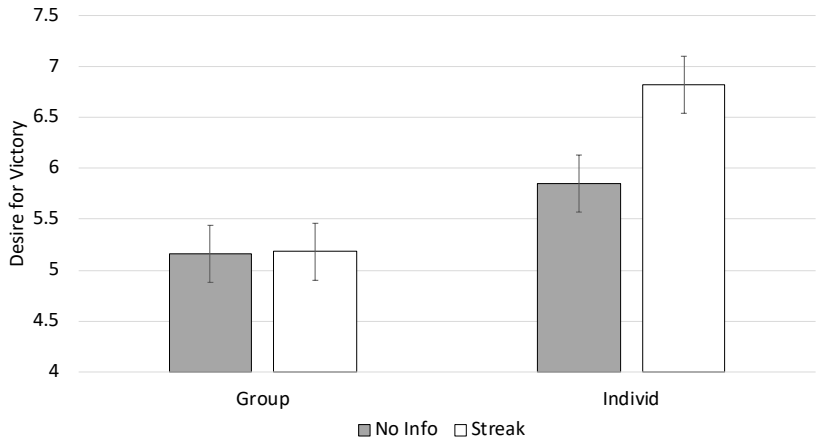
Results

Study 7a. The three questions that measured participants' desire to see the streak continue were highly inter-correlated (Cronbach's Alpha = .81) and therefore averaged to create a composite measure. The composite was analyzed using a 2 (condition: individual, team) x 2 (prior performance: streak, no information) analysis of variance (ANOVA) which yielded a main effect of condition ($F(1,193) = 17.03$, $p < .0001$), a marginally significant main effect of prior performance ($F(1,193) = 2.99$, $p = .09$), and a marginally significant interaction ($F(1,193) = 2.81$, $p = .10$). Exploring these results further (see Figure 4), when we examined the responses of participants in the streak conditions only, a planned contrast revealed that, as in our previous studies, participants who read about an individual on a streak wanted to see the streak continue ($M = 6.82$, $SD = 1.82$) more than participants who read about a team on a streak ($M = 5.18$, $SD = 2.14$), $t(193) = 4.07$, $p < .0001$, $d = .83$. A parallel planned contrast on the data from the prior performance conditions yielded a marginally significant Identifiable Victor Effect: Participants who read about an individual who was not known to be on a streak wanted to see that individual win ($M = 5.85$, $SD = 2.09$) marginally more than those who read about a group that was not known to be on a streak ($M = 5.16$, $SD = 1.95$), $t(193) = 1.69$, $p = .09$, $d = .35$. Testifying to the existence of the Streaking Star Effect, further analysis revealed that those participants who read about an individual on a streak wanted to see that individual win at the next Olympics ($M = 6.82$ $SD = 1.82$) significantly more than the individual who was not known to be on a streak ($M = 5.85$, $SD = 2.09$), $t(193) = 2.40$, $p = .02$, $d = .31$. Being on a streak matters.

The three questions measuring the degree of awe participants would feel if Kramer/Switzerland were to win at the next Olympics were also highly inter-correlated (Cronbach's alpha = .98) and therefore averaged to create a composite index. The composite was likewise analyzed using a 2 (condition: individual, team) x 2 (prior performance: streak, no

information) analysis of variance (ANOVA) which yielded a main effect of condition ($F(1, 193) = 11.46$, $p < .001$), no main effect of prior performance ($F = 1.2$), and no interaction ($F < 1$). A planned contrast on the data from the streak conditions revealed that participants were more in awe at the prospect of seeing an individual riding a streak win at the next Olympics ($M = 6.35$, $SD = 2.26$) than a team on a streak ($M = 4.89$, $SD = 2.54$), $t(193) = 3.16$, $p = .002$, $d = .61$. However, participants did not feel more awe at the prospect of an individual winning at the next Olympics who was not said to be on a streak ($M = 5.75$, $SD = 2.23$) compared to the group that was not said to be on a streak ($M = 5.01$, $SD = 2.15$), $t(193) = 1.69$, $p = .11$, $d = .34$.

Figure 4 – Streaking Star Effect vs Identifiable Victor Effect in Study 7a



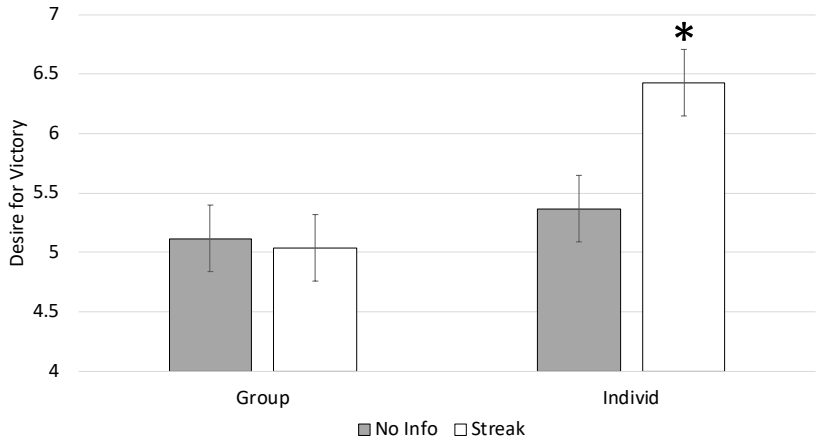
Replicating the results of Study 4, we found that awe mediated the observed difference in participants' desire to see a victory on the part of an individual versus a team continue their streak of success. Participants indicated they would feel more awe if the individual was to continue his streak than if the group was to continue their streak, $b = 1.46$, $SE = .48$, $t(97) = 3.03$, $p = .003$. When both condition (individual vs. group) and the composite measure of awe were

simultaneously entered into a regression predicting desire to see the streak continue, condition remained a significant predictor (b = .69, SE = .26, t(96) = 2.67, p = .01) and awe was also significantly related to the desire to see the streak continue (b = .65, SE = .05, t(96) = 12.35, p < .0001). A Preacher Hayes (2008) bootstrapping procedure (with 10,000 iterations) revealed that the indirect effect through awe was significant, 95% CI = [.329, 1.60], p = .002, indicating that, for those who read about a streak, awe was a significant mediator of the effect of the individual/team manipulation on people's desire to see the streak continue.

Study 7b. The three questions assessing participants' desire to see the streak continue were highly inter-correlated (Cronbach's Alpha = .94) and were therefore averaged to create a composite measure. The composite was then analyzed using a 2 (condition: individual, team) x 2 (prior performance: streak, no information) analysis of variance (ANOVA), which yielded a main effect of condition (F(1, 214) = 7.27, p = .008), no main effect of prior performance (F(1, 214) = 2.34, p = .12), and a marginally significant interaction (F(1, 214) = 3.59, p = .059). Further analysis revealed that the Streaking Star Effect again emerged for those who were told that the player(s) was(were) on a streak, but not for those who were not told that the player(s) was(were) riding a streak (see Figure 5). A planned contrast indicated that participants wanted the individual on a streak to win (M = 6.43, SD = 2.03) more than the team on a streak (M = 5.05, SD = 2.62), t(214) = 3.27, p = .001, d = .59. However, unlike in Study 7a, we found no evidence for an Identifiable Victor Effect: the relevant planned contrast indicated that when participants were not told anything about a streak, they did not want the individual to win the contest (M = 5.38, SD = 2.05) more than they wanted the team to win (M = 5.13, SD = 2.01), t < 1. As in Study 7a, participants wanted to see the individual on a streak win (M = 6.43, SD = 2.03)

significantly more than the individual about whose prior performance they had no information (M = 5.38, SD = 2.05), $t(214) = 2.44$, $p = .02$, $d = .51$.

Figure 5 – Streaking Star Effect vs Identifiable Victor Effect in Study 7b



*p = .001

Taken together, studies 7a and 7b provide evidence that the Streaking Star Effect is not simply an extension of the Identifiable Victim Effect—an Identifiable *Victor* Effect. Replicating earlier studies, participants in Studies 7a wanted to see an individual on a streak win more than a group on a streak, a difference that was mediated by awe. These same participants wanted to see an individual who was not known to be on a streak win marginally more than a group that was not known to be on a streak, showing weak evidence for an Identifiable Victor Effect. However, they also wanted to see the individual on a streak win significantly more than the individual not known to be on a streak, suggesting that the Streaking Star Effect is something beyond an Identifiable Victor Effect. Additionally, the indirect effect of awe on participants' desire to see a victory for the individual not known to be on a streak versus the group not known to be on a streak was not significant ($p > .80$).

Study 7b bolstered the results of Study 7a. Participants in Study 7b also wanted the individual on a streak to win more than the group on a streak. These participants, however, reported no difference in their interest in seeing a victory on the part of an individual versus a team when neither was known to be on a streak. Thus, unlike in Study 7a, we saw no evidence for an Identifiable Victor Effect. In sum, these results indicate that the Streaking Star Effect is unlikely to be an artifact of identifiability, and is instead a distinct phenomenon resulting from its own set of psychological processes.

There are other features of these studies which serve to further differentiate the Streaking Star effect from previous work on identifiability. The Identifiable Victim Effect has been shown to be reduced significantly when the group being evaluated is more entitative (Smith, Faro, & Burson, 2012). That is, when the victims in question are described as being members of a family or members of a team, people do not show the same preference to help individuals more than groups. Note that the groups our participants were asked about are highly entitative. Olympic teams, regional football teams, and police departments are all highly entitative groups that would likely reduce the preference people show toward individuals over groups. We find robust evidence of people preferring to see individuals succeed over groups in our studies even when the groups in question are highly entitative.

Discussion

In 8 studies, participants consistently displayed a greater desire for an individual to continue a streak of success than a group riding an identical streak. Individual streaks are more awe-inspiring than group streaks, which partially accounts for the effect. The effect is also

driven by the greater concern that observers have for the other groups that are losing out compared to the other individuals who lose out.

As noted earlier, our initial thoughts about the psychology underlying the Streaking Star Effect revolved around the possibility that there may be a relationship between the twin mechanisms of awe and attention to the also-rans. One possibility, we suspected, was that the experience of awe was a factor that drew attention away from the consideration of other competitors. However, the results of Study 6 revealed that these two mechanisms are likely not directly caused by each other. Although both the experience of awe and attention to the also-rans were significant mediators of the Streaking Star Effect, the experience of awe did not mediate attention to the also-rans (nor did attention to the also-rans mediate the experience of awe). Instead, it appears that these two mechanisms act simultaneously, yet independently.

The studies we report here have examined this phenomenon in the context of uninterrupted streaks, but we suspect that the same psychology applies to periods of dominance that don't qualify as pure streaks. Tennis player Roger Federer, for example, has not won consecutive major tournaments since 2017, yet he has dominated the sport of tennis for many years. Despite not currently being on a streak, he remains the most popular player on the tour and the majority of fans root for him wherever he plays. In contrast, the New England Patriots have inspired more "hate" sites than any other NFL team even though their 6 Super Bowl Championships in the 21st century, while dominant, does not qualify as a streak. A streak of uninterrupted success is one form of dominance, but a stretch of high-level performance can still be viewed as dominant even if it is not continuous. This raises the question of whether continuity is necessary for the Streaking Star Effect to emerge.

We suspect not. Note that the mechanisms we have identified are likely to be engaged even when there are gaps in an individual's stretch of dominance. A sustained period of individual dominance may generate feelings of awe even if it's not perfectly continuous. A sustained period of individual dominance is also likely to focus fans' attention on the dominant individual, making them less attuned to, and concerned about, other individual competitors who are cast in the shadows. Dominance on the part of groups is less likely to inspire awe and less likely to monopolize their attention, leaving them more inclined to pay attention to the teams that are kept from the spotlight.

Indeed, it is possible that the Streaking Star Effect may even be enhanced when an individual suffers a break in their streak of dominance. People believe that it is much more difficult to re-start a streak than to continue one (Markman & Guenther, 2007), and successful athletes tend to experience an increase in popularity when they face challenges (Howe & Parker, 2012). Federer himself has commented on this element of his own career. After dominating tennis for many years, he suffered a couple of injuries and went 4 years without winning a major tournament. This appears to have increased fans' desire to see him win, as Federer noted to a reporter: "People saw me struggling a little bit more, and they thought of me as being more human. Since then my popularity has really gone up…" (Otway, 2018). More generally, the disruption of a streak may increase the desire people have to see a dominant individual restore the feelings of awe they once enjoyed. People may enjoy a team's return to glory as well, but since team success tends to inspire less awe than individual success, we suspect that the desire to witness that return tends to be less pronounced. In this sense, our tests of the Streaking Star Effect—involving only observers' reactions to continuous streaks—may be considered a

conservative approach to our broader research question, but that is something that will have to be clarified by future research.

CHAPTER 3

IMPLICATIONS FOR CONSUMER BEHAVIOR

As Golfer Tiger Woods walked up to the final hole in what would become his 4th victory at the fabled Masters Tournament, there was no doubt that golf fans everywhere were rooting for him. The 43-year-old golfer was about to complete a victory that would cement his legacy as perhaps the greatest golfer of all time. In the early 2000s, Woods enjoyed a run of success that was unprecedented in the history of golf. He was virtually unbeatable during this stretch. His popularity grew with his success, and by the turn of the century he was widely considered to be the most popular athlete on the planet. Injuries and personal problems derailed his career for several years, but in 2019 he regained his dominant form, much to the delight of golf fans around the world.

Woods' dominance on the course has been matched by his prowess as a brand ambassador. In the early 2000's, it was estimated that he made more than $1.5 billion in endorsement deals. He was such a valuable marketing asset that the economic impact he created for the sport of Golf and the companies he endorsed became known as the "Tiger-effect" (Niesen, 2019). Indeed, the "Tiger-effect" was in full force during the 2019 Masters. CBS' TV ratings for the final round of the Masters were up 40% from the prior year as a result of Woods being in contention on the final day. The analytics company Apex Marketing Group estimated that Nike, one of Woods' long-time business partners, earned $22.5 million in brand exposure during the Masters from Woods' prominent display of the Nike swoosh on his hat and shirt. Clearly, Tiger Woods' success on the Golf course has a sizable effect on consumers.

Although extraordinary performances by individuals can have a great impact on consumers, extraordinary performances by groups may not have the same impact. For example, in 2014, College Football changed its championship format to a 4-team playoff. The University of Alabama has dominated the sport of college football since 2014, becoming the only team to qualify for each playoff. Alabama has been especially dominant lately, advancing to the championship game each of the last four years and winning twice. However, unlike Tiger Woods, the continued success of the University of Alabama does not appear to be encouraging consumption of products associated with college football. Four years ago (2016), ticket prices for the college football championship game, which included Alabama for the first time, were selling on the secondary market for over $1700. This past year (2019), ticket prices for the college football championship game, which included Alabama for a 4th consecutive time, were selling on the secondary market for an average of $151. Some journalists noted that fans' boredom with continually seeing Alabama in the championship was part of the reason for the low-ticket prices in 2019, a phenomenon that was later referred to as "championship fatigue" (Myerberg, 2019; Vitale, 2019). Unlike Tiger Woods' success, consumers have not found Alabama's continued dominance to be terribly valuable.

This chapter explores how consumers value products associated with individual dominance as compared to group dominance. The material presented here is closely related to the previous two chapters that established the Streaking Star Effect – a bias in which people desire to see a run of success by an individual continue more than an identical run of success by a group. Here we draw on those findings to argue that consumers may be willing to pay more for a product when it is associated with a dominant performance by an individual as opposed to a group.

Although there is a wide literature in psychology that has explored the differing reactions that people have to individuals and groups (for a review, see Critcher & Dunning, 2014), very little work has examined how consumers may differentially value products created by individuals and groups. One topic that has been explored is the role of creative control on consumers' evaluations of a product. When a single individual has creative control over the design of a product, consumers tend to evaluate that product better because it's perceived as having greater authenticity. In one study, a new beer was found to be more likely to win an award when that beer was described as having been crafted by a single brew master as opposed to several people working together. Another study of historical music award data indicated that songs produced by a single song-writer are more likely to be recognized with awards like a Grammy but are less likely to sell than songs that are the product of multiple song writers (Valsesia, Nunes, Ordanini, 2015). Overall, this work suggests that consumers may have greater appreciation for products produced by an individual as opposed to a group, but they may not necessarily be willing to pay more for those products.

However, we contend that there are conditions under which consumers may be willing to pay more for products produced by individuals as opposed to groups. One potential condition is when a product is itself associated with a dominant run of success by an individual. As we established in the last chapter, dominant individual success is more awe-inspiring than dominant group success. Awe is a positive emotion that is associated with many positive outcomes (Piff, et al, 2015; Rudd, Hildebrand, & Vohs, 2018). It is likely an emotion that people desire to feel and may seek out in their consumption.

How might people consume awe? Research has shown that consumers believe products can be imbued with qualities of the people with whom they have come into contact. For

example, consumers value an object more if it has come into contact with a person of high esteem, presumably because they believe that getting close to the object gets them closer to the essence of the person. In one study, participants were willing to pay more for an item of clothing that was believed to have been worn by a celebrity than one worn by a non-celebrity (Newman, Diesendruck, & Bloom, 2011). Thus, it is possible that consumers may be willing to pay more for products associated with individual dominance than group dominance because those products may bring them closer to the essence an awe-inspiring person or achievement.

That consumers may be willing to pay more for a product associated with a run of individual dominance than a run of group dominance suggests a host of market implications of the Streaking Star Effect. For instance, consumers may be willing to pay more for an artifact associated with an individual on a run of dominance than a group on a run of dominance. In addition, people may be more likely to buy tickets to sporting events when an individual rather than a team is on a streak. We test these two possibilities in the remainder of this chapter.

Study 8 – Artifacts are Valued More When Associated with Individual Records

As an initial test of the hypothesis that consumers are willing to pay more for artifacts associated with individual dominance as opposed to group dominance, we took advantage of a pair of recent runs of success in the National Football League. In 2013, the Denver Broncos had one of the most prolific offenses in NFL history. They set numerous records, including the team record for the most touchdowns scored in a single season (76) and the individual record for most touchdown passes thrown by a player in a single season (55) by the Broncos' quarterback, Peyton Manning. Both records happened to be set on the same play when Manning threw a 5-yard touchdown pass to wide receiver Demaryius Thomas during the last game of the regular

season. We predicted that participants would value the football from this play more if they were informed that the ball had been used to set the individual record as opposed to the team record. We expected to find this result even though the artifact in question was touched the exact same amount by the exact same people either way.

Method

Participants. We expected the dependent variable in this study to be noisier than in previous studies. As a result, we aimed for a sample twice as large as that of our previous studies. 401 participants were recruited from Mechanical Turk in exchange for modest compensation. 35 of these participants had to be excluded be for not completing the elicitation procedure (described below). That left a final sample of 366 participants (131 female, mean age = 35.02). This sample still allowed us to detect a significant result for an effect size of $d = .35$ with over 80% power.

Methods and Materials. Participants first read about the details of the play described above. They were then randomly assigned to read that the Broncos had set the single season team record for touchdowns on the play or that Manning had set the individual single season record for touchdown passes on the play. After seeing a picture of the football from the play, participants then indicated how much they would be willing to pay for the ball using a willingness to pay elicitation procedure. In this procedure, participants saw a column of dollar figures that ranged from $0 to $500+ in $20 increments. For each dollar value, participants indicated whether they would rather have the football or the amount of money. The point at which participants switched from preferring the football to preferring the money was deemed their willingness to pay for the football. Next, participants wrote in the exact dollar value (i.e.,

not constrained to $20 increments) that they would be willing to pay for the football. Participants then reported their age and gender.

Results

Examining the results from the elicitation procedure, it is clear that participants would be willing to pay more for the football when it was framed as having been used to set the individual record (M = $383.73, SD = 355.76) as opposed to the team record (M = $301.04, SD = 326.10). Because the distribution of willingness-to-pay values was highly skewed, the non-parametric Wilcoxon Rank Sum Test was used to analyze the data, and it yielded a significant difference between the two groups, p = .01. Similarly, participants also indicated in the write in portion of the survey that they were willing to pay a higher price for the football when it was framed as being connected to the individual record (M = $673.57, SD = 1526.43) than the team record (M = $434.18, SD = 1007.97). The distribution of these values was also highly skewed and so the non-parametric Wilcoxon Rank Sum Test was used and yielded a significant difference between the two conditions, p = .01.

These results highlight one way in which the Streaking Star Effect may have notable consequences for consumer behavior. Participants indicated that they were willing to pay more for an artifact that was associated with a run of individual dominance than a run of group dominance even though the artifact had been in contact with the exact same people for the exact same amount of time in each condition.

Study 9 – Buy the Ticket, Take the Ride

Another type of purchase that is more commonly made in the sports and entertainment industries is tickets to events. One recent study estimated that consumers spent $56 Billion on

tickets to sporting events in 2017 (O'Brien, 2017). In our next study, we investigated whether consumers would be willing to pay a greater premium for a ticket to watch an individual athlete on a streak of success than to watch an athletic team on a streak of success. To do so, we asked participants to imagine watching an individual tennis player or a doubles team compete in the final of a professional tennis tournament. We then varied whether the entity (individual or team) was said to be on a streak of success.

Method

Participants. 403 participants were recruited from Mechanical Turk in exchange for modest compensation. 19 of these participants had to be excluded be for not completing the elicitation procedure. That left a final sample of 384 participants (167 female, mean age = 33.16) were recruited from Mechanical Turk in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = .35$ with over 80% power.

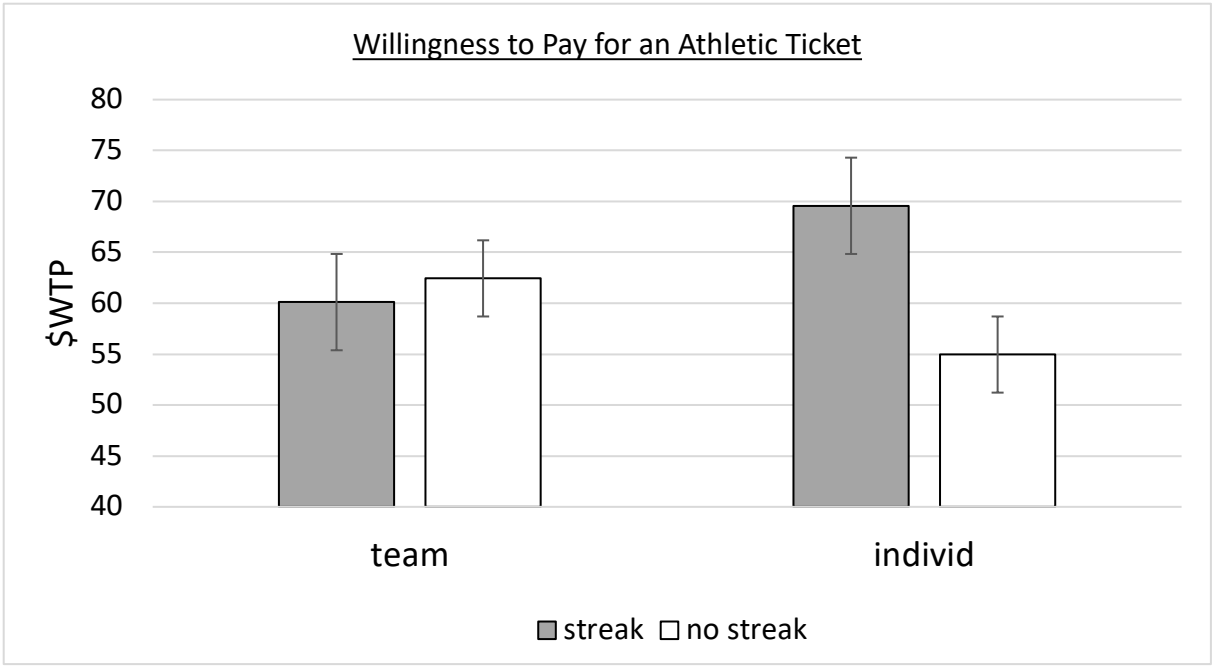
Methods and Materials. Participants read about a series of real tennis tournaments called the Tennis Masters Series that feature successful former players who have retired from the primary tour. In the *individual condition*, participants read about tennis player Stefan Edberg (a real player from the 80s and 90s) who was said to be competing in tournaments on the Tennis Masters Series. One group was told that Edberg had won four consecutive tournaments and would be competing for his record 5th consecutive win at the next tournament, while another group was given no information about Edberg's prior tournament history. In the *team condition*, participants read about the doubles team of Stefan Edberg and Michael Stich (who was also a real player from the 80s and 90s) who were said to be competing in tournaments on the Tennis Masters Series. One group was told that the team of Edberg and Stich had won four consecutive tournaments and would be going for their record fifth consecutive win at the next tournament,

while another group was given no information about the team's prior tournament history. All participants were then asked to indicate how much they would be willing to pay to see either Edberg or the team of Edberg and Stich compete in the final of the next tournament using the same willingness-to-pay elicitation from the previous study. Finally, all participants indicated their age and gender.

Results

A 2 (condition: individual, team) x 2 (streak type: streak, no streak) analysis of variance (ANOVA) on the willingness to pay measure yielded no main effect of condition ($F < 1$), no main effect of streak type ($F = 1.84$, $p = .17$), and an interaction ($F(1, 380) = 3.51$, $p = .06$). Planned contrasts revealed that consumers were not willing to pay more to see a team on a streak of success ($M = \$60.11$, $SD = 43.46$) than to see a team that is not on a streak of success ($M = \$62.44$, $SD = 42.76$), $t < 1$. However, consumers were willing to pay more to see an individual on a streak of success ($M = \$69.57$, $SD = 50.77$) than to see that same individual when he is not on a streak of success ($M = \$54.96$, $SD = 39.42$), $t(380) = 2.28$, $p = .02$. These data suggest that a streak of success by an individual may have a greater impact on consumers' willingness to pay for a ticket to an event than a streak of success by a team or group.

Figure 6:



Discussion

In this chapter, we presented evidence that consumers are willing to pay more for products associated with a run of dominance by an individual than a group. In study 8, participants reported a greater willingness to pay for an artifact when that artifact was framed as having been connected to an individual record than a group record. This result occurred even though the artifact was described as having been touched the exact same amount by the exact same people in each condition. In study 9, participants were willing to pay a greater premium for a ticket to see an individual on a streak of success than a team on a streak of success.

Together, these studies expand upon the prior work in the marketing literature that has examined consumer attitudes toward products that are associated with individuals and groups. Although previous work in this area has identified some differences in how consumers evaluate products associated with individuals as opposed to groups, prior work had not identified a condition under which consumers may be willing to pay more for products associated with

individuals as opposed to groups. Here we identify products associated with dominant runs of success as one such condition.

Although this chapter establishes new ground in the marketing literature, it also raises some questions. First, it's not clear from the data presented here whether the mechanism driving these results is the same mechanism that drives the Streaking Star Effect. We argue, of course, that the possibility of experiencing greater awe when considering a purchase associated with individual dominance, as opposed to group dominance, increases consumer demand and willingness to pay. However, we have not tested whether awe truly drives this effect. Although work from the previous chapters lays the groundwork for justifying such a test, resolving whether or not awe is truly responsible for the greater premium consumers are willing to pay for a product associated with individual dominance must await future research.

It is also noteworthy that although consumers were willing to pay a greater premium for a ticket to see an individual on a streak of success than a group of a streak of success, the Streaking Star Effect did not emerge in Study 9 as it did in prior studies. That is, the amount that consumers were willing to pay for a ticket to see an individual on a streak was not significantly different than the amount that consumers were willing to pay to see a group on a streak. There are a couple of possible explanations for this result. One is that the elicitation procedure used in these studies is substantially noisier than the composite averages that were used to measure participants' desire for a streak to continue in the previous chapter. The difference in willingness to pay between the individual on the streak and team on the streak was in the predicted direction, and it is possible that a Streaking Star Effect would have emerged in this study with a larger sample.

Another reason that the Streaking Star Effect may not have emerged in Study 9 is that this is the only study we ran that tested a single individual against a group of size two. One may wonder if the group size was simply too small to generate the Streaking Star Effect. Despite the small group size, it should be noted that we still observed a difference in differences between the individual and group conditions. This suggests that consumers' willingness to pay for these products is at least somewhat impacted when the group expands to a size of two, even if the Streaking Star Effect did not emerge as it typically did in previous studies. Future research should examine how group size may moderate the Streaking Star Effect, if at all.

The results of this chapter broaden our understanding of the scope of the Streaking Star Effect. We have shown that people are not only interested in seeing a dominant run of success by an individual continue more than an identical run by a group, but they are also willing to pay more for products associated with dominant runs of individual success. The Streaking Star Effect may be a phenomenon that plays out not just in the minds of people who are observing extraordinary performance, but in their consumer decisions as well.

CHAPTER 4

IMPLICATIONS FOR SOCIETY: HOW THE STREAKING STAR EFFECT IMPACTS ATTITUDES ABOUT INEQUALITY

In 2016, Reuter's released the results of a poll that measured public opinion of well-known political and business leaders. The most popular individual from the poll was American investor Warren Buffett who was enjoying a favorability rating of 89% (Reuter's, 2016). One of the world's wealthiest people, Buffett has become well-known for his uncanny ability to continually find value in the financial markets and make money for his clients.

Although Buffett is very popular, not all successful investment entities are regarded so highly. Not long after the Buffett poll was conducted, another poll was released by the Media Research Center that tracked the public's opinion about some of America's most successful companies. Near the bottom of the list was investment bank Goldman Sachs with a favorability rating of 4%. Goldman has been one of the most (if not the most) successful investment organizations on Wall Street, regularly turning in sizable profits for investors and clients. Yet, unlike Warren Buffet, Goldman Sachs' success has not translated into popularity.

Of course, there are many reasons for the difference in favorability ratings between Warren Buffett and Goldman Sachs (not the least of which is Warren Buffett's folksy, likable demeanor). But the size of this discrepancy may reflect a more fundamental difference about how people view the accelerating wealth of individuals as opposed to the accelerating wealth of groups. This chapter explores the differing attitudes that people have about inequality when they perceive either a successful individual or a successful group standing above the crowd. We

propose that people may be more tolerant of inequality when they perceive those at the top of the ladder as individuals rather than as a group.

Human society has seen unprecedented gains in wealth over the last 50 years (Piketty & Saez, 2014). Most of these gains have gone to the wealthiest members of society, which has led to increasing economic inequality between those at the top and those at the bottom. This rapidly growing inequality is associated with a range of negative outcomes such as higher bankruptcy rates (Levine, Frank, & Dijk, 2014), higher homicide rates (Wilkinson & Picket, 2006), higher divorce rates (Levine, Frank, & Dijk, 2014), lower charitable giving (Cote, House, &Willer, 2015), and lower well-being (Oishi & Kesebir, 2015).

Despite the many negative outcomes that arise from economic inequality, societies have taken very few steps to reverse it. Indeed, when asked about their ideal distribution of wealth in society, Americans prefer an unequal distribution in which those at the top have substantially more wealth than those at the bottom (Norton & Ariely, 2011). This preference for an unequal distribution of wealth has been documented in 16 countries (Kiotpangsan & Norton, 2014).

The preference people exhibit for unequal distributions of wealth in society is particularly vexing given that people are noticeably averse to inequality in the lab. In one study, participants preferred an equal distribution of resources in an economic game even if meant that all participants enjoyed a lower level of resources overall (Dawes, Fowler, Johnson, McElreath, & Smirnov, 2007). Other studies have documented inequality aversion in the lab using a variety of methods and populations, including children as young as 15 months (Sloan, Baillgeron, & Premack, 2012; Schmitt & Sommerville, 2011). Although people view inequality in the lab as unfair, their opinions seem to reverse when they evaluate inequality at the societal level (Starmans, Sheshkin, & Bloom, 2018).

Part of the reason that people prefer unequal economic outcomes at the societal level may stem from a tendency to overvalue the status quo, including the current economic system (Jost, Banaji, & Nosek, 2004). People at all points of the income distribution tend to believe that the system producing that distribution is fair and just. Economically successful people, for example, may believe that the unequal economic system through which they accumulated their wealth is justifiable because they have a motivation to believe that their advantaged financial position was fairly earned and was not the result of a biased system that provided them an advantage. Likewise, poorer people may also come to believe the unequal economic system is fair in order to reduce the cognitive dissonance they may feel as a result of being disadvantaged in a society in which many others are advantaged (Jost, Pelham, Sheldon, & Sullivan, 2003). Given the negative outcomes that accompany economic inequality, any tactics that may nudge people to reduce their persistent endorsement of economic inequality may have valuable consequences for society.

One way that researchers have attempted to encourage people to reduce their endorsement of inequality is by framing inequality in different ways. Much work has shown that the manner in which inequality is framed can impact the degree to which people support societal inequality. Chow and Galak (2012) found that framing economic inequality as the rich having more than the poor, rather than the poor having less than the rich, increased conservatives' support for redistributive policies. Other research has shown that when people in general are framed in terms of their similarities as opposed to their differences, support for unequal economic outcomes is weakened (Ordabayeva & Fernandes, 2017). Framing has also been used as a tool to affect attitudes toward inequality between racial groups. Similar to Chow and Galak's finding, one study found that a flawed hiring practice that was framed as advantaging

whites rather than disadvantaging blacks increased white support for affirmative action (Lowery, Knowles, Chow, & Inzuetta, 2014). More broadly, when the accomplishments of the civil rights movement are framed as a commitment to equality, rather than progress toward equality, support for egalitarian policies increases (Eibach & Purdie-Vaughns, 2011). This work lends credence to the hypothesis that framing inequality in terms of individuals who have experienced great success, as opposed to groups, may possibly increase endorsement of economic inequality.

Why might people be more averse to inequality when thinking about successful individuals than successful groups? One possibility may be that people make different attributions for the success of individuals as compared to groups. As we noted in Chapter 1, people tend to make greater dispositional attributions for the behavior of individuals and greater situational attributions for the behavior of groups (Critcher & Dunning, 2013). Other work has shown that people who make dispositional attributions for the behavior of others are more tolerant of economic inequality than people who make situational attributions. In one study, participants induced to believe that economic inequality is due to people's actions and dispositions were less likely to donate money to a non-profit that promotes policies to limit inequality (Piff, 2019 in prep). It is possible, then, that framing the most successful people in society as a group, rather than as individuals, may encourage situational attributions for the success of those at the top, which may reduce the degree to which people endorse economic inequality.

In the following three studies, we test the hypothesis that people are more averse to inequality when a group, rather than an individual, is described as having more than others. We first show that, in a sports context, people may be more open to redistribution when one group is dominating another group than when one individual is dominating another individual. Next, we

show how corporate success that is framed as the result of a skilled individual CEO, rather than a group of skilled executives, increases people's tolerance for the expanding market-share of a large company. Finally, we test our proposed mechanism by investigating whether global inequality is perceived as more fair when comparing the world's wealthiest person against the world's poor than when comparing the world's wealthiest group of people against the world's poor. We expected that the degree to which people make dispositional attributions for the success of the world's wealthiest people will mediate how fair global economic inequality is perceived to be.

Study 10 – Inequality in the Wide World of Sports

Many economic systems around the globe tend to reward both individuals and groups who have already experienced great success (Frank, 1996). In the last several years, the economic gains in society have gone largely to the top 1% of income earners, with much of those gains going to the top .01% of income earners. One industry where this is pattern is particularly noticeable is sports. Very few athletes make a living as professionals, and there is a great deal of inequality even amongst those who are fortunate to join the professional ranks. Those athletes and teams who experience the most professional success are awarded substantial economic resources, which allows them to procure numerous advantages such as the ability to invest in greater training resources and the ability pay for better coaches. In many sports, teams who experience the most financial success are also able to afford the best players. Buying the best players allows these teams to win more games, which often translates into greater revenue that can then be re-invested into more and better players.

In this study, we relied on the inequalities that emerge in the world of sports to test whether people are more averse to inequality when it's framed as an individual who has accumulated the most resources rather than a team who has accumulated the most resources. Participants read about an individual professional athlete or a professional team who has been dominant in their respective sport, and who had thus acquired sizable resources to spend on training, coaching, and other talent. We then described another individual or team, one who has accumulated an average level of resources, and asked participants to indicate how fair they believed the discrepancy between these individuals or teams to be. We expected that people would find the discrepancy between the individuals to be more fair than the discrepancy between the teams.

Method

Participants. 188 participants (77 female, mean age = 36.21) were recruited on Mechanical Turk. This sample allowed us to detect a significant result for an effect size of d = .38 with 80% power.

Methods and Materials. Participants were randomly assigned to either the Baseball condition or the Tennis condition. In the *Baseball condition*, participants were told that the teams in major league baseball have accumulated different levels of resources to spend on players. The New York Yankees were said to have accumulated the most resources due to their continued success over the years, with an estimated annual payroll of $245 million. The Cleveland Indians were said to have accumulated a level of resources closer to the league average, with an estimated annual payroll of $120 million. Participants then read about the results of the first round of the 2017 Major League Baseball playoffs in which the Yankees defeated the Indians by a score of 3 games to 2.

In the *Tennis condition*, participants were told that the players on the professional tennis tour have accumulated different levels of resources to spend on training and coaching. Those players with higher levels of resources were said to be able to purchase numerous advantages such as additional treatments to speed recovery after matches and the ability to pay for more and better coaches. Participants then read about tennis player Roger Federer who was said to have accumulated an estimated annual training and coaching budget of $2.45 million, the most among players in the top 40. They also read about Stan Wawrinka, who was said to have accumulated an estimated annual budget of $1.20 million, a level of resources closer to the average for players in the top 40. Participants then read about the results of the 2017 Australian Open semifinal in which Federer defeated Wawrinka by a score of 3 sets to 2.

All participants were then asked to indicate how fair they believed the inequality to be between the baseball teams/tennis players. They were asked how fair they believed the outcome of the competition was, how fair the resource distribution is between these two teams/players, and how fair it would be if a "luxury tax" was implemented to redistribute money away from those teams/players (like the Yankees/Federer) with the most resources to other teams/players (like the Indians/Wawrinka) with fewer resources, all on a scale from 1(not at all fair) to 9(extremely fair). Finally, participants reported their political orientation on a scale from 1(very liberal) to 7(very conservative) along with their age and gender.

Results. Each measure was analyzed using a two sample t-test. Participants believed the outcome of the game between the Yankees and the Indians was less fair ($M = 6.06$, $SD = 2.15$) then the outcome of the match between Federer and Wawrinka ($M = 6.80$, $SD = 1.92$), $t(175.89) = 2.49$, $p = .01$. Other work has shown that beliefs about the justifiability of inequality may differ by political orientation (Altemeyer, 1998; Pratto, 1999), and so we tested whether this

result would hold when controlling for political orientation. The difference between conditions held in a linear model when controlling for political orientation, $b = .77$, $t(185) = 2.60$, $p = .01$. Participants also believed that the resource distribution between the Yankees and the Indians was less fair ($M = 4.65$, $SD = 2.44$) than the resource distribution between Federer and Wawrinka ($M = 5.39$, $SD = 2.22$), $t(177.11) = 2.16$, $p = .03$. This difference held in a linear model when controlling for political orientation, $b = .82$, $t(185) = 2.44$, $p = .02$. Lastly, participants believed it would be fairer to implement a luxury tax on wealthier baseball teams ($M = 5.40$, $SD = 2.20$) than it would be to implement a luxury tax on wealthy individual tennis players ($M = 4.15$, $SD = 2.46$), $t(185.95) = 3.67$, $p < .001$. This difference also held in a linear model when controlling for political orientation, $b = -1.29$, $t(185) = 3.76$, $p < .001$.

This study provided initial support for the hypothesis that people are more averse to inequality when there is a successful group at the top than a successful individual. People indicated that an unequal distribution of resources was more unfair between two athletic teams than two individual athletes. They also indicated that it would be fairer to address that inequality through a redistributive policy in the team sport than in the individual sport.

Study 11 – Good CEO's Deserve More Market-Share Than Good Companies

We established the Streaking Star Effect and its underlying psychology in Chapters 1 and 2, however we did not, at that time, identify any specific moderators. One situation that may potentially moderate the Streaking Star Effect is when the success of a group is perceived as being driven almost entirely by a single individual. In this case, it is possible that people may desire to see that group succeed more than a group whose success is perceived as the result of

equal contributions from the members of a group. (This is a topic that will be revisited in the General Discussion.)

There are many instances in which a group's success is perceived as mostly due to the efforts of a single individual. In the business world, companies with strong, singular CEOs are often seen as succeeding due to the talents of their visionary leader. Innovative individual CEOs have been viewed as responsible for the rise of certain companies such as Apple (Steve Jobs), Berkshire Hathaway (Warren Buffet), and Amazon (Jeff Bezos). Regardless as to whether the success of these companies can be attributed entirely to their CEOs, public perception that a company's success is due largely to the efforts and talents of its CEO may reduce the situational attributions that people make for the success of that company. We expect that observers will be more tolerant of individuals (or entities) achieving success relative to others when observers can make fewer situational attributions for that individual's (or entity's) performance. Thus, people may come to see a company driven by a CEO as more deserving of success than a company whose performance is credited more equally across a group of executives and employees.

One way that people may show favor for a company with a successful CEO is through a greater tolerance for that company to grow relative to the size of its competitors. Most industries are unequal in terms of market share, with a few companies often controlling the vast majority of their respective industries. We expect that highly successful companies whose achievements are perceived as having been driven by their CEO may be seen as deserving of a greater share of their market than companies who are perceived as being driven by a group of executives. We tested this possibility by framing an American fortune 500 company as either succeeding due to a visionary CEO or to a visionary group of executives.

Method

Participants. 199 American participants (99 female, mean age = 32.50) were recruited from Prolific Academic in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = .36$ with 80% power.

Methods and Materials. Participants read about the electronics component manufacturer AVnet, one of the 350 largest companies in America. In the *CEO condition*, participants were told that the CEO of AVnet, Robert Eisen, had guided the company for the last couple of decades, making a series of shrewd maneuvers that accounted for the great success of AVnet. In the *group condition*, participants were told about a group of executives who had guided the company for the last couple of decades, making the same series of shrewd maneuvers. All participants were then asked to indicate how much market-share they believed AVnet should have in its industry using a slider from 0-100. Participants then provided their age, gender, and political orientation using the same scale from the previous study.

Results. A two sample t-test revealed that participants believed AVnet should have a larger market share when the company's success could be attributed to its CEO ($M = 49.05$, $SD = 21.81$) rather than a group of executives ($M = 41.27$, $SD = 25.57$), $t(196.02) = 2.26$, $p = .02$. This difference held in a linear model when controlling for political orientation, $b = 7.98$, $t(196) = 2.38$, $p = .019$. In other words, people feel that a company deserves to control a greater share of its industry relative to its peers when its success is framed as being due to a skilled individual than a skilled group. In the individual condition, people believed that AVnet should control nearly half of the market. This study provides additional evidence that people may be more willing to support economic imbalances when an individual, as opposed to a group, is perceived as having achieved significant success.

Study 12 – Reframing Global Wealth Inequality

To this point, we have used the specific domains of sports and industry to test whether people are more supportive of inequality when thinking about a successful individual as opposed to a successful group. In the next study, we used real global economic data to test whether people will be more tolerant of inequality when the global gap in economic wealth between the rich and poor is described in terms of an individual at the top rather than a group.

Oxfam is a non-profit organization that uses a variety of methods to address global poverty. One of Oxfam's missions it to compile statistics that illustrate the extent of economic inequality in the world. Recently, they released data showing that the 26 wealthiest people in the world now control the same amount of wealth as the world's 3.5 billion poorest. We relied on this data for our next study. We told people about this group of wealthy people and how their wealth compares to the wealth controlled by the world's poor. In another condition, we told people about the world's wealthiest individual and how his wealth compares to the wealth of the world's poor. We anticipated that framing the economic gap between the rich and the poor as an individual at the top, rather than a group, would lead people to endorse global inequality as more just and fair. We expected this result to be mediated by the greater dispositional attributions people would likely make for the individual's success than the group's success.

Method

Participants. 301 participants from America, the UK, and Canada (212 female, mean age = 34.60) were recruited on Prolific Academic in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = .30$ with 80% power.

Methods and Materials. Participants were randomly assigned to either the group condition or the individual condition. In the *group condition*, participants read about a statistic

released by Oxfam indicating that the 26 wealthiest people in the world have accumulated the same amount of wealth as the 3.5 billion poorest. In the *individual condition*, participants read about a statistic released by Oxfam indicating that the wealthiest person in the world has accumulated the same amount of wealth as the 300 million poorest. In order to control for specific feelings about a single individual, the world's wealthiest person was described as either being one of the three wealthiest people in the world: Bill Gates, Warren Buffet, or Jeff Bezos. Participants were then asked to indicate how fair they believe the inequality reflected in statistics like these to be on a scale from 1(entirely unfair) to 9(entirely fair), and to indicate how deserving they believe the group of 26/the world's richest person are/is of their/his wealth on a scale from 1(not deserving) to 9(entirely deserving).

We then determined whether participants made greater dispositional or situational attributions for the success of these wealthy people. Participants were asked to indicate whether they believe the 26 wealthiest people/the world's wealthiest person succeeded due to societal factors like an advantageous economic system or to personal factors like a high level of talent on a scale from 1(their success is due entirely to societal attributes) to 9(their success is due entirely to personal attributes).

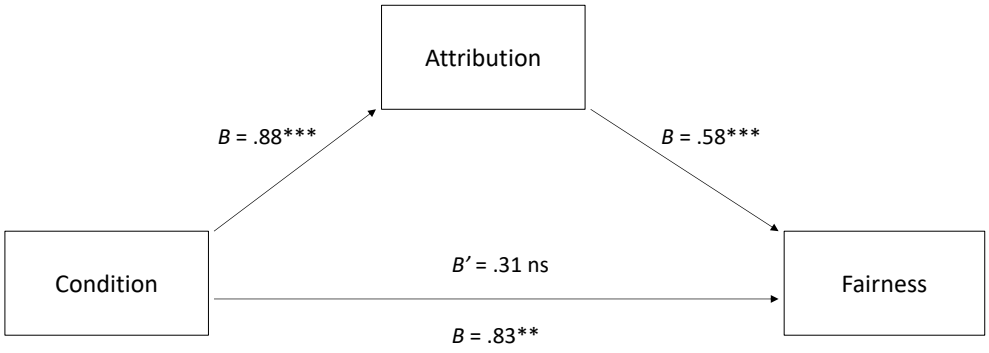
Results. Participants believed that the inequality described in the Oxfam statistics was fairer in the individual condition ($M = 4.45$, $SD = 2.32$) than in the group condition ($M = 3.72$, $SD = 2.29$), $t(298.87) = 2.73$, $p = .007$. Participants also believed that the wealthiest person in the world was more deserving of his wealth and success ($M = 5.97$, $SD = 2.32$) than the group of 26 wealthiest people in the world ($M = 5.03$, $SD = 2.29$), $t(298.96) = 3.60$, $p < .001$.

Participants also made greater dispositional attributions for the success of the world's wealthiest person ($M = 5.42$, $SD = 1.85$) than for the success of the world's 26 wealthiest people

($M = 4.54$, $SD = 1.85$), $t(298.96) = 4.11$, $p < .0001$. Note that the means in this previous measure are each significantly different from 5.0, the mid-point of the scale (all p's < .01). This suggests that people not only made more dispositional attributions for the success of the individual, but they also were more likely to make dispositional attributions for the success of the individual and situational attributions for the success of the group.

Further analysis provided support for the hypothesis that the attributions people make for the success of the wealthy are at least partly responsible for the differing attitudes people exhibit toward inequality when it is framed in terms of a successful individual at the top as opposed to a successful group. Participants made more dispositional attributions for the success of the individual than the success of the group, $b = .88$, $SE = .21$, $t(299) = 4.11$, $p < .0001$. The fairness and deserving measures were highly correlated ($r = .61$) and, for the purpose of this analysis, were collapsed into a composite average of fairness. When both condition and the attribution measure were simultaneously entered into a regression predicting the composite fairness measure, condition was no longer a significant predictor ($b = .32$, $SE = .20$, $t(299) = 1.55$, $p = .12$) while attribution predicted the average of fairness and deservingness ($b = .58$, $SE = .05$, $t(298) = 10.88$, $p < .0001$). A Preacher Hayes (2008) bootstrapping procedure (with 10,000 iterations) revealed that the indirect effect of condition through attribution was significant, 95% CI = [.52, .26], $p < .0001$, indicating that attribution fully mediated the effect of condition on participants' perceptions of inequality. Thus, people believed that the Oxfam statistics were fairer when represented in terms of an individual at the top rather than a group, and this effect was mediated by the greater dispositional attributions people made for the success of the individual as opposed to the group.

Attribution Mediates Fairness



*** p <.001

Discussion

The studies presented in this chapter point to a previously unidentified way of framing inequality that may influence people's attitudes toward inequality. When inequality is framed as an individual at the top of the ladder rather than a group, people may be more willing to endorse inequality as just and fair. We saw this pattern unfold in a scenario from the sports world in which an individual who dominated his sport and accumulated disproportionate resources to help him succeed was seen as more deserving of his success than a sports team who had dominated its sports and accumulated similarly disproportionate resources. In study 11, people felt a successful Fortune 500 company should be larger compared to its competitors when its success was believed to have resulted from the work of a skilled individual CEO rather than a skilled group of executives. The differing attributions that people make for the success of individuals and groups may partially explain this phenomenon. In our last study, people made more

dispositional attributions for the success of the world's wealthiest individual and made more situational attributions for the success of the 26 wealthiest people in the world, a result that mediated the degree to which people believed that global inequality was just and fair.

In recent years, economic inequality has gained more attention as a global problem. Many different organizations often attempt to communicate the extent of economic inequality to the public in an effort to spur greater collective action to correct it. This communication has sometimes attempted to create outrage by drawing attention to the exorbitant salaries of individual people like specific Fortune 500 CEOs or extremely successful professional athletes. Although the discrepancy between the wealth of these individuals and the rest of humanity may indeed stir some outrage, our findings suggest that focusing attention on specific people in society who have accumulated the most wealth may not be the most effective way to inspire action on inequality. Specific individuals, as opposed to groups, are more likely to be judged as having attained their wealth by virtue of their own ability. Consequently, inequality is likely to be judged as fairer when it's conveyed to the public in terms of successful individuals at the top, rather than successful groups.

The greater situational attributions that people make for the success of groups as opposed to individuals may explain the effectiveness of the language that has been used to describe the people at the top as the "1%" and the people at the bottom as the "99%." This language gained popularity in the late 2000s and is now common in discussions about inequality. Part of the reason that this language may have become so popular is because it encourages observers to see the people at the top of the income ladder not as individuals, but rather as a collective group (the 1%). By doing so, observers may be more likely to make situational attributions for the success of the people at the top. This language, then, may make inequality seem less like an inevitable

outcome that's driven by the exceptional abilities of the wealthy, and more like a systematic failure that could conceivably be corrected.

Along these lines, future research should examine whether this framing may also make people more likely to take action against inequality. Prior research on tolerance of societal inequality has looked at whether people are more willing to donate to charities that advocate for policies that impact inequality, such as a higher minimum wage (Piff, 2019). We believe that framing inequality as an individual at the top rather than a group would yield a similar result. In study 10, we showed that people believe a redistributive policy to correct inequality is fairer with a group framing than an individual framing. However, more behavioral measures are needed to understand the extent to which people are willing to take action after seeing a group-framing as opposed to an individual-framing.

It is worth noting that although this framing technique may have promise as a method for shifting attitudes about inequality, there may be some limitations to this work. These studies pitted a named, identified individual in the individual condition against a group in the group condition whose members were not identified. In Study 11, the CEO of AVnet was clearly identified as Robert Eisen while the group of executives in the group condition remained unidentified and faceless. One could argue that our results were enhanced because we did not compare identified targets across conditions. That is, we never ran a study in which we employed an unidentified individual in the individual condition, or in which we identified the members of the group in the group condition. It's possible this concern may need to be addressed; However, we believe that doing so is unlikely to change the results. Note that in Study 3, all of the members of the group in the group condition were specifically identified, which equated identifiability across conditions. The Streaking Star Effect emerged quite

robustly in that study, even when all members of the group were identified. We believe that had we equated identifiability across conditions in the studies from this chapter that the pattern of results would emerge just the same.

Global inequality is one of the most significant issues facing humanity. Despite the negative consequences of inequality for all members of society, people have taken surprisingly little action to correct it. The work presented in this chapter suggests one partial solution. Guiding people to perceive those at the top as a group may shift their preferences in favor of a more equitable society.

CHAPTER 5

GENERAL DISCUSSION

Although past researchers have exerted considerable energy studying streaks of success and failure, very little attention has been paid to the conditions that influence whether or not observers want a given streak to continue. The original aim of this work was to fill that gap. In the first eight studies, we identified a reliable bias such that people desire streaks of success by individuals to continue more than identical streaks by groups. We demonstrated two mechanisms that drive this effect. One key factor is that people experience a greater sense of awe at the prospect of seeing an individual continue a run of dominance than a group. A second is that people take the other competitors into greater consideration when a group is on a streak than when an individual is on a streak.

The remaining studies illustrated how the implications of this work extend far beyond people's preference for the continuation of streaks of success by individuals. Chapter 3 demonstrated ways in which the Streaking Star Effect can impact consumer behavior. We found that consumers were willing to pay more for products associated with individual runs of dominance than group runs of dominance, presumably because products associated with individual dominance are imbued with greater feelings of awe. As an additional extension, we showed how the psychology underlying the Streaking Star Effect may be used to influence attitudes toward inequality. In Chapter 4, inequality was judged to be more acceptable and fair when people perceived the top rung of the income ladder to be occupied by a successful individual as opposed to a successful group.

The differing attributions that people make for individuals and groups is at the root of many of these findings. Part of the reason that individual dominance is more awe inspiring may be because people tend to make greater dispositional attributions for the behavior of individuals than groups. Similarly, we found in Chapter 4 that people are more likely to make dispositional attributions for the success of wealthy individuals than wealthy groups. Mechanisms themselves often have their own psychological explanations, and these results raise the question as to why people make more dispositional attributions for individuals as opposed to groups. Although other research has supported this attributional pattern (Critcher & Dunning, 2014), no work has identified why people may follow this pattern when making judgments about individuals and groups.

One possible explanation is that groups are more abstract than individuals, which may lead people to focus on different factors when making judgments about individuals and groups. The concrete nature of an individual target may call to mind specific characteristics like the target's will and determination. These kinds of characteristics may seem especially difficult to ascribe to an abstract group of people who do not possess a single consciousness. As a result, outside social and environmental forces may be seen as acting more easily on a group of people than on specific individual. The ultimate reason, though, as to why people follow this attributional pattern is beyond the empirical goals of this work and would be better addressed by future research.

Although we have explored at great length a condition that dictates whether people prefer a streak of success to continue, we have not examined the preferences people may have when the streak in question is one of failure rather than success. Do people prefer individuals to *dis*-continue losing streaks more than they prefer groups to *dis*-continue identical streaks? While

people are often sensitive to the plight of a long-suffering individual (e.g. Small & Loewenstein, 2015), anecdotal evidence suggests that the preference for losing streaks to end may not follow the same kind of pattern as winning streaks. As an example, for over 100 years, The Chicago Cubs had suffered the longest championship drought of any professional team. But in 2016, they made it to the World Series and defeated the Cleveland Indians. The national reaction leading up to the World Series suggested that many people everywhere, regardless of location or prior allegiance, were pulling for the Cubs to end their run of futility (this author included). The number of people jumping on the Cubs' "Bandwagon" was so great that it inspired a series of popular memes in addition to several news articles noting the sudden nationwide popularity of the Cubs (Linder, 2016). It seemed possible that the prospect of witnessing the Cubs' put an end to over 100 years of losing may have been awe-inspiring in its own right.

In a more formal test, we asked 200 participants on Mturk to imagine that an individual Calcio player or Calcio team had failed to qualify for the playoffs for 6 consecutive years. We then asked how much people would like to see these streaks come to an end. We suspected it may be possible that the prospect of a team ending a losing streak may inspire greater awe than individuals ending losing streaks (a reversal of the Streaking Star Effect). But this did not prove to be the case. In fact, there was no difference in the amount that participants wanted to see the individual end his of run futility and how much they wanted to see the team do the same. It is possible that people do want to see a team turn around a stretch futility (maybe even more than they would want that team to continue a streak of success) but people appear equally interested in seeing an individual on a run of futility turn around his fortunes.

Moderators of the Streaking Star Effect

There are likely to be a number of moderators of the Streaking Star Effect. One possible moderating variable is whether the domain of evaluation is subjective or objective. In our studies of the basic effect, success was determined by an objective measure such as who ran the fastest, who answered the most trivia questions, or who solved the highest percentage of homicide cases. Individual success in these areas is likely to inspire considerable awe because it's clear that the individual who dominates is stretching the perceived limits of human performance in the domain in question. In contrast, when success is subjectively determined, it may not be taken as equally strong evidence that a limit is being challenged—or even that the dominant individual in question is truly the best.

Consider the music industry, for example, a domain in which we suspect the Streaking Star Effect is unlikely to emerge. Both individual artists and musical groups often dominate the charts for weeks on end, and our results might lead one to suspect that music fans would pull for individual artists to continue streaks of popularity more than musical groups on an identical run of success. But musical preferences are subjective, and many situational factors may influence the public's momentary preference for a given artist such as good marketing, an attractive image, or even whether the artist is recently deceased (Walker & Gilovich, in prep). The title of "Best Artist" is one that defies objective definition, making it difficult to conclude that a top selling artist is better than all the others. Although successful musicians, whether individuals or groups, may indeed inspire feelings of awe, it's not clear, given the subjectivity of the domain, that individual musical artists will inspire more awe than musical groups experiencing similar success. This also helps explain results in chapter 3 in which consumers from prior research were not willing to pay more a song produced by an individual artist (even though it may have won a grammy), but consumers in our studies were willing to pay more for a football associated

with an individual record – the success of the artists from prior studies were judged subjectively, whereas the record for touchdown passes in a season is objectively determined.

Another potential moderator of the Streaking Star Effect (as alluded to in Chapter 4, study 11) is whether a group's success is thought to be driven by an awe-inspiring individual. Many successful teams have entered the record books on the strength of a singular talent. The Chicago Bulls, for example, dominated the NBA in the 90s and many basketball fans desperately wanted their success to continue. But it would be hard to imagine that Bulls team being very successful without the contributions of Michael Jordan, who was performing at an unprecedented level. Much of the interest in the Bulls was due to a desire to see what Jordan might accomplish next. An individual who is able to lift a team to great heights may inspire just as much awe as someone who achieves similar success in an individual domain. Part of the reason may be that it becomes easier to make dispositional attributions for the success of a team when a singular individual can be credited with the success of the group. Consequently, people may want to see a team or group continue a streak just as much as an individual when that team's success is thought to be driven largely by an individual.

Future Directions

Although we have already noted some future directions in earlier sections of this paper, there are other directions that are worth noting, especially in the domain of consumer behavior. It was easiest (for us) to study the impact of the Streaking Star Effect on consumer behavior in the world of sports, but we have little doubt that the effect on consumers is much broader. For instance, companies sometimes face a choice of whether to market themselves as being driven by a singular, successful CEO, or by a group of successful executives and employees. In study 11 we saw that people believe a company should have a greater market share when its success is

perceived to be driven by a strong CEO rather than a group of executives. Just as team success in the world of sports may inspire more devotion on the part of fans when it's perceived as being driven by the talents of a talented individual, companies may connect better with consumers and develop a more effective brand by marketing themselves as driven by a successful individual rather than a successful group. It may be that companies such as Apple and Facebook, who developed their brand behind the face of their enigmatic and highly successful CEOs, may not have connected with consumers as effectively if those CEOs had stayed out of the public eye. Future work should examine whether consumers are willing to pay more for a product when a company highlights the role of its CEO in its marketing.

Similarly, individuals who have experienced tremendous streaks of success may serve as better brand ambassadors than groups with the same history of success. Recently, NFL Defensive Player of the Year J.J. Watt, a defensive end for the Houston Texans, led a campaign to raise money for victims of Hurricane Harvey in the Houston area. Watt's fundraiser became the largest crowd-sourced fundraiser in history, raising over $41 million (Barshop, 2018). The fact that the campaign was driven by a single awe-inspiring individual likely played a role in its success. We suspect that the Houston Texans as an organization would not have the same success at fundraising that Watt was able to achieve on his own. This suggests that when a cause lacks a single identifiable victim who would otherwise draw attention to an issue, a single *identifiable fundraiser* may boost donations provided that the individual in question, like J.J. Watt, inspires feelings of awe and captures the attention of the public.

Conclusion

Although there are ways in which we think of groups the same way we think of individuals (Hamilton & Shermam, 1996), there are many ways in which we think of them differently. Here we have explored one of the important differences. People appear to be more moved by individual success than group success and are therefore more interested in seeing individual success continue. There are certainly times when people are inspired by periods of group dominance, but individual dominance appears to more easily capture our attention and imagination. This affinity for individuals on runs of success may be so strong that it not only influences our allegiances, but also what we do with our pocketbooks and how we think about inequality.

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